The Canada School Journal.

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The Canada School Journal

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CANADA SCHOOL JOURNAL HAS RECEIVED

An Honorable Mention at Paris Exhibition, 1878.
Recommended by the Minister of Education for Ontario.
Recommended by the Council of Public Instruction, Quebec.
Recommended by Chief Superintendent of Education, New Brunswick.
Recommended by Chief Superintendent of Education, Nova Scotia.
Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

THE BIBLE IN SCHOOLS.

Two letters, amongst many contributed to the daily journals on this subject and now lying before us, seem worthy of more than a passing notice. One is by Mr. Laing, the other by Mr. McMullen, both of them members of the deputation which waited on the Premier, and both of them active promoters from the first of the agitation. We shall not waste space in discussing with Mr. McMullen whether the members of the deputation are all agreed as to the status they would accord to the Bible in Schools. If they are, then Mr. Laing's statement is correct, and he has indicated clearly how far he is willing to go. In order that we may do him no injustice we give his own words, premising that the italics are ours:—

> We do not ask for any change in the law. The tenth clause of the School Act provides for giving such religious instruction as parents desire to be given subject to regulations. Now, if the "whole community," or nearly so, as the JOURNAL admits is the case, desires the use of the Bible in giving religious instruction, the law, without any change, provides for the use of the Bible. Hitherto the regulations have been recommendatory; in other words, it has been left to Boards of Trustees to use the Bible or not to do so. The promoters of this movement are of opinion that under these regulations the Bible is not to any great extent used as the book *for teaching morals*; in fact that in the great majority of schools Bible morality is not taught. They believe that the chief reason is that Christian morality is by the present regulations treated as a secondary matter; and that as arithmetic, grammar, literature are made paramount and obligatory, parents, trustees, and teachers in many cases are satisfied when these things which are required by regulations are done, and are thus careless regarding Bible *instruction*. We ask for a change in the regulation, so far as to make the reading of Scripture as much a part of ordinary school work as arithmetic or grammar, and to give moral and religious education as high a place as intellectual. *We have authorized class-books; we wish the Bible made such, and the reading of it (under clause 9th of Act) as much a part of the pupil's training as reading the third or fourth book.* This change of regulation can be made without any "risk of a change in the principle of the law" or any departure from what the law permits to be done now.

If this extract correctly embodies the conjoint view taken by the deputation then it is quite clear that what the members wanted was to have the Bible placed in the hands of the pupils as an ordinary class book, and to have the teachers required by law to explain and illustrate its text as they would that of any other text-book. This of necessity implies that the teachers must themselves make the Bible a subject of study and that they must be examined as to their acquaintance with its contents. To set men to teach what they do not know is absurd, and the Education Department cannot reasonably be expected to overlook this difficulty. We commend to all who are interested in this discussion, and especially to the clergymen of the various religious denominations, Mr. Laing's clear statement of what he wants, and Mr. McMullen's explicit admission that Mr. Laing speaks on this point the views of the deputation of which Mr. McMullen himself was chairman. It is a great thing in any discussion to get the ground cleared, and now that all parties to the controversy know what the originators of it want they can govern themselves accordingly.

We confess our inability to understand what Mr. Laing means when he says he does not want any change in the law, unless it be that he does not want any in the text of the School Act. We have been accustomed to regard the departmental regulations as a part of the school law, and quite as essentially so as the Act itself, under the authority of which they are prescribed. The deputation asked for a change in the law as it affects the status of the Bible in schools, and for a very important change. On this point we need not enlarge, for we discussed it fully in our last month's article, to which Mr. Laing's letter is intended to be a reply. We content ourselves just now, in this connection with a brief reference to his comments on one of the reasons urged against making the regulation respecting the use of the Bible mandatory instead of recommendatory. We pointed out that if the use of the Bible were made compulsory a penalty would have to be exacted for non-compliance by teachers, and that such a penalty could not be exacted. Mr. Laing admits that a penal clause would be a dead letter but denies the necessity for it. How then would any change in the wording of the regulations promote the use of the Bible in schools? A teacher finds in the regulations a command to use the Bible unless a majority of the ratepayers in the section say it shall not be used. For some reason he does not see fit to use it, and at once his course is called in question. Steps are taken to ascertain whether a majority are opposed to or in favor of its use. If the majority endorse the teacher then the Bible is kept out. If the majority go against him then nothing is gained that could not have been gained under the law as it stands, for the majority in any section can introduce the Bible now into the schools. If the proposed change is to be made in the law, therefore, it must be enforced by a penalty if anything is to be accomplished, and then Mr. Laing admits that a penalty for non-compliance could not be exacted.

This is only stating in another form the conclusion at which we arrived last month—that the law in its present form is practically sufficient for the accomplishment of all that the deputation asked for, and that this fact, coupled with the other important fact that the present regulation on the subject is the result of a sensible compromise adopted a generation ago, is a good reason for leaving the law unchanged.

We may, we hope, repeat our statement that more could be done than is done under the present regulation were the clergy to exert themselves a little more in their own localities. We do not think it is reasonable to expect them to take part in the actual work of religious instruction in the public schools, but it is not unreasonable to ask those who want the Bible introduced to try first what they can accomplish by educating public opinion in their own neighborhoods. They can, as visitors under the law, advise the teachers, address the ratepayers, and visit the schools. In their own pastoral capacity they can do even more. If they will unitedly do all they can, the coming year will see an increase in the number of schools in which the Bible is used and probably also a decided change in a direction pleasing to Mr. Laing in the manner of using it. To this we have no objection—but the reverse—provided only that the change is brought without endangering the harmony so characteristic at present of the working of the school system.

A MENTOR IN CULTURE.

We give the following editorial remarks in the November number of the *Educational Monthly* the benefit of the additional publicity afforded by our own columns :—

"The recent craze for native editions of English classics, and the facilities given for their introduction and use in the schools of the Province have much to answer for. Many of these Canadian texts (and we are not specially referring to Mr. Millar's work) do industry credit at the expense of honesty. In not a few instances, everything is put under tribute but their editor's brains. They are compilations, the sources of which are seldom acknowledged, and the piecing together is sometimes fearful and wonderful work. It would, of course, be unfair to expect much from men who have served no apprenticeship to letters, who have had limited education, or possess little originality of mind, and who have indifferent libraries to assist them in their labor. For these and other drawbacks we are most ready to make allowance. But when the literature of a country is shaping itself, and when education is unduly forcing the mental activities, it is well to be jealous of any attempt to foist poor or watered work upon the community, and to see to it that those who take to authorcraft have aptitude for their task and will not leave their conscience behind in undertaking it."

This is one of the most refreshing examples of impertinence that have ever come under our notice. Who is it that presumes to speak in this style of the Canadian editors of English classics? A man who has himself failed at everything he undertook, whether of a business or a literary character; who failed as a bookseller, and failed even more signally as a bookmaker; who edited one magazine to death, and is now engaged in performing the same kind office for another; who cannot make the slightest pretension to the possession of even a fair education; and who is as empty of culture as he is void of common sense and common prudence. This is the man who sneers at some of our most prominent and successful high school masters as literary pirates, as compiling their books without any exercise of intelligence, as having "served no apprenticeship to letters," as having had a "limited education," and as possessing "little originality of mind." In view of these defects, which may be credited to the niggardliness of nature, and of this other, which may be credited to the parsimony of school-boards—that the Canadian editors "have indifferent libraries to assist them in their labour"—his critical mightiness is willing to overlook a great deal, "to make all allowance," but hereafter the would-be editor must see to it that he is supplied not merely with a library, but with brains, and a conscience.

As if to leave his purpose to insult the teaching profession beyond the possibility of doubt, he carefully includes others besides Mr. Millar, the editor of the most popular edition of "Marmion." His insolent aspersions cover men like Mr. Seath, the author of one of the very best and most useful school editions of part of the "Paradise Lost"; Mr. Williams, and Mr. Armstrong. They affect also by implication men like Mr. Tytler, Mr. Wetherell, Mr. Henderson, Mr. Dunn, and others who, though they are only Canadians, have presumed to bring out school editions of French and Latin classics. These men are all well educated—they could not otherwise have attained their present high positions—and they have little to boast of if their acquaintance with "letters" does not go beyond that acquired by a tradesman whose veneer of culture has been acquired by perusing the books on his shelves when he ought to have been attending to business.

On the main question we have only to say, that of most of the English texts there are editions by English scholars available, and that the preference for Canadian editions is not without reason. Some of the English editors, whose reputation for scholarship stands highest, bring out books very unsuitable for school purposes, and there is no reason why a Canadian editor, with fair scholarship, good judgment, and good taste, should not produce a better edition than any previous one, seeing that he has an opportunity to avail himself of the labors of others. It is a petty slander to say that there is no originality displayed in the preparation of these texts. The man who uses such language has a very erroneous idea of the nature of an editor's duties. One English editor is a philologist, and in preparing his notes gives them a philological cast. Another dwells most persistently on points of grammar. Another affects the rhetorical element; and others are fond of historical, mythological, or purely literary treatment. It is often possible to prepare, from a mass of such material, a better school edition than any one of them is by itself; and every scholar knows that the preparation of such a work requires the exercise, not merely of brains, but of critical insight and literary skill, tempered by actual tutorial experience. The Canadian editions of English, Latin, and French texts are creditable to this country, instead of the reverse, and the Canadian teacher may safely take it for granted that hereafter one or other of the editions prepared by his fellow-teachers here will be found more useful, as a rule, than any imported one.

EDUCATION IN THE UNITED STATES.

The report of the United States Commissioner of Education for 1880 is before us. It is a most elaborate volume, comprising a complete record of the year specified, and a brief survey of the preceding decade. The aim of this costly and carefully compiled publication is to elucidate the bearing of education on national progress and prosperity.

The principles of classification adopted are such as are deemed best adapted to throw light upon both the quantity and the quality of the school work performed in the country. A comparative study of the educational statistics contained in this volume and the census tables of illiteracy makes it clear beyond dispute, that illiteracy is in universe ratio to the condition of the public schools; "where they are most numerous and flourishing, illiteracy is at the minimum, and until the reverse is true, no argument, criticism or opposition will prevail against them." As might be expected the qualifications and enumeration of teachers differ widely in the several states of the union. Average salaries for male teachers are represented as varying from $25.24 per month in South Carolina to $101.47 per month in Nevada; for female teachers from $17.44 per month in Vermont to $77 in Nevada. In reference to the matter of teachers' salaries, the report contains an extract from General McLellan's report to the Legislature of New Jersey, in which it is urged that the law should fix a minimum salary for every grade of teachers, and provide for a state school-tax each year sufficient to produce the required sum. It is claimed that such a system, however rigid and mechanical in appearance, would not injuriously affect local liberality in supplementing the sum fixed by statute.

The salaries paid the teachers of city schools present more attractive figures. The principal of the City Normal School, New York, receives a salary of $6000; the principals of the high schools, Boston, each $3780.

The condition of normal schools through the union is treated in the report with admirable fulness and perspicuity. There are eighty-four normal schools supported by state appropriations, twenty-one by city appropriations, and one receiving county aid. The largest appropriation to a single institution was $95,000 in 1880 to the City Normal College, New York. But four other schools received more than $20,000 each, and eight states extend $25,000 and upward annually upon their normal schools.

The summaries of school income, expenditure, funded endowments are lucidly discussed in connection with the strong demand put forth for national aid to education. The Southern States, as a rule, are without permanent school funds of any considerable magnitude, and it is claimed that it would be but an act of justice to place these, by a grade national measure of relief, on an equality with the Northern and Western States, whose schools-funds have resulted from large national land grants.

We cannot follow the commissioner in his detailed consideration of subjects and methods of instruction. Kindergartens chiefly prevail, they have increased from 43 in 1873 to 232 in 1880. They include 524 teachers and 8871 pupils.

Industrial education in public schools is limited to sewing in the girls' grammar schools of Boston, and industrial and free-hand drawing as required by the laws of Massachusetts, New York, Vermont, and a few cities of other states.

The combination of work shops and schools has not proved successful, though the commissioner thinks that, with the example of France illustrating the problem, the attempt will be renewed, perhaps more successfully. We cannot close this brief reference without endorsing the opinion expressed by commissioner Eaton, that the National Bureau of Education, of which he is chief, sustains relations to the general educational interests of the country of the greatest importance.

THE MUNRO EXHIBITIONS AND BURSARIES.

Thirty-six students are now attending lectures in Dalhousie College, Halifax, as holders of either exhibitions or bursaries established for the benefit of that institution through the munificence of Mr. George Munro, the well-known New York publisher. In a few years the natural development of the system will increase this number to *sixty*, the apparent design being to distribute *five* exhibitions and *ten* bursaries among the members of each of the four undergraduate classes. Already the two lower classes are enjoying the benefit of this generous provision, and will continue to do so until the completion of their respective courses. A new quadrennial series is also announced to begin with the class which will matriculate in 1883. As exhibitions and bursaries represent respectively $200 and $150 per annum, Mr. Munro's benefactions to Dalhousie in this particular department of aid, bid fair to soon reach the annual value of $10,000. The results of this large-hearted attempt to stimulate higher education cannot but be awaited with interest.

THE ONTARIO ASSOCIATION.

We direct the attention of our readers to the outline, in another column of the programme for the next Ontario Teachers' Association. The subjects are all important and we have no doubt that when the names are announced it will be found that each is the right man in the right place. We also republish for the information of the teachers generally the following paragraph from a circular sent out by the secretary of the Provincial association, Mr. R. W. Doan of this city. Speaking of the minutes of the annual convention he says:—

"The circulation of the Minutes among teachers will no only be the means of informing them of the views of the General Convention on the debated questions of the day, but it will also afford them an opportunity of assisting the Provincial Association by reducing the annual loss attendant on printing and circulating the Minutes. These are supplied at ten cents per copy. On all orders for thirty copies and upwards, a reduction of twenty-five per cent. is made on the above rate. In some of the County Associations a copy is given to each member who has paid his fees for the curren year."

THE "MARMION" QUESTION.

The sensible concession made to the Roman Catholic and other students who disliked certain passages in Scott's "Marmion" has completely quieted the storm which prevailed a few weeks ago. The subject was scarcely ever referred to in the opening debate of the Ontario Legislature; the Minister of Education was never called on for a defence of his action; and the leader of the Opposition distinctly affirmed the right of any member of any religious denomination to protest against what he regards as a moral defect in any prescribed text-book.

The substitution of the "Traveller" for "Marmion" has been popular with the high school masters and pupils, many of whom have taken up the former, even after spending a good deal of time on the latter. Nor is the reason far to seek: "Marmion" belongs to a class of poems which are pleasant enough to read, but are not valuable for purposes of study. It was, on grounds altogether apart from morality, a bad choice, and the teachers and students who prefer the "Traveller" may be regarded as quietly protesting against it. The amount of time that can be devoted to the reading of English in a high school is necessarily limited, and therefore the work to be read should not be extensive. It should, however, be somewhat difficult, so as to compel a really critical reading if it is to be thoroughly mastered. Let a class once master such a piece as Wordsworth's "Ode on the Intimations of Immortality," and they will have acquired a literary treasure of unspeakably greater value than volumes of such diluted romance as the contents of "Marmion."

TREATISES ON EDUCATION.

Teachers' Associations are frequently at a loss when they come to select works on pedagogy for professional libraries. For the information of our readers we republish, from the New England *Journal of Education*, the following list of English works, any of which can be procured by associations through the local book trade:—

1. Joseph Payne's Lectures on the Science and Art of Education $2.00
2. Fitch's Lectures on Teaching 1.75
3. Latham on the Action of Examinations 3.50
4. Currie's Common School Education 2.50
5. Currie's Early and Infant Education 1.50
6. Walker's Handy Book of Object-Lessons 1.75
7. Lawrie's Training of Teachers 2.50
8. Gill's Systems of Education 1.00
9. Gill's School Management 1.20
10. Gill's Art of Teaching Young Minds How to Think . 80
11. Quick's Educational Reforms 1.50
12. Fearon's School Inspection 75
13. Blackison, The Teacher 75
14. Mullinger's Schools of Charles the Great 3.00
15. Arnold's Higher Schools and Univs. of Germany . . 2.00
16. Combe's Education: Its Principles and Practice (edited by Jolly) 5.00
17. Robinson's Manual of Methods for Primary Schools . 1.25
18. Calderwood's On Teaching; its End and Means . . 70
19. Bain's Education as a Science 1.75
20. Spencer's Education,—Intellectual, Moral and Physical. 1.25
21. Thwing's Education and School 1.75
22. Maclaren's System of Physical Education 1.75
23. Locke's Thoughts Concerning Education; Notes by Quick 80
24. Ascham's Schoolmaster 50

PROFESSIONAL TRAINING.

The authorities of Queen's College, Kingston, are protesting against the departmental regulation which requires all university graduates and undergraduates to undergo a professional training before engaging in the work of high school teaching. So far as their protest is based on the disadvantage incidentally inflicted on Queen's, as compared with Toronto University, it is worthy of the most earnest attention. All collegiate institutions must be kept in this Province on the same footing as nearly as possible, and if any such regulation discriminates in favor of one at the expense of others it should be amended. But on the main question the protest from Queen's is wrong. A university training is not for the teacher's calling a sufficient preparation. There is much inferior teaching in our high schools, and its existence is due very largely to the presence in them of untrained teachers. Many who have good natural ability learn rapidly by experience, but by the time they have become efficient they have tided over the financial difficulties in the way of their own progress, and enter other professions. It is sometimes said that the regulation will make it difficult to obtain assistants. What of that? The supply will soon equal the demand, and if the temporary scarcity should happen to have a permanent effect in raising salaries, no harm would come of it to the profession.

President Arthur, in his late annual message to congress, has the following remarks on educational topics:—

"No survey of our material condition can fail to suggest inquiries as to the moral and intellectual progress of the people. The census discloses an alarming state of illiteracy in certain portions of the country where the provision for schools is grossly inadequate. It is a momentous question for the discussion of Congress, whether immediate and substantial aid should not be extended by the general government, supplementing the efforts of private beneficence and of state and territorial legislation in behalf of education."

"Alaska is still without any form of civil government. If means were provided for the education of its people, and for the protection of their lives and property, the immense resources of the region would invite permanent settlement, and open new fields for industry and enterprise."

The revenue of the United States has for some time enormously exceeded its expenditure. There is difficulty in the way of reducing taxation, as any decrease in customs duties lessens the amount of protection afforded to home manufactures. Last session congress voted several millions of dollars for local public works, not at all of a necessary character, the object being to diminish the surplus and postpone the necessity of reduced taxation. It is just possible that a similar motive may lead this session to some such expenditure on education as the President suggests.

—The "Smellfungus" of the *Monthly*—as he has accepted the title gracefully, it would be a pity to deprive him of it—thinks he has found some errors in "Gage's Practical Speller." The fact that he does not produce them is ample evidence that he cannot do so, and the challenge of the publishers, therefore, remains unanswered.

Mathematical Department.

ELEMENTARY ALGEBRA.

1. Sum $\dfrac{a+b}{(b-c)(c-a)}+\dfrac{b+c}{(c-a)(a-b)}+\dfrac{c+a}{(a-b)(b-c)}$.

N.B.—Numerator of sum $=(a^2-b^2)+(a^2-c^2)+(c^2-a^2)=0$, $\therefore$ sum $=0$.

2. Sum $\dfrac{bcd}{(a-b)(a-c)(a-d)}+\dfrac{cda}{(b-c)(b-d)(b-a)}+\dfrac{dab}{(c-d)(c-a)(c-b)}+\dfrac{abc}{(d-a)(d-b)(d-c)}$

Numerator of sum =

$$bcd(b-c)(b-d)(c-d)-cda(c-a)(c-d)-dab(a-b)(b-d)(d-a)+abc(a-b)(b-c)(c-a).$$

Now this numerator is symmetrical with respect to a, b, c, and d. Also, when $a-b=0$, *i.e.*, when $a=b$ this numerator $=0$;

Hence $(a-b)$ is a factor of the numerator; and by symmetry, $b-c$, $b-d$, $c-a$, $c-d$, and $d-a$ are factors, $\therefore$ $(a-b)(b-c)(b-d)(c-a)(c-d)(d-a)$ is a factor. Thus the common denominator of the sum will cancel out, and the numerical factor of the numerator will be the value of the sum when reduced. To find this numerical quantity: put $a=0$, $b=1$, $c=2$, $d=3$ in the numerator of the sum and we have

$$(6)(-1)(-2)(-1)-0-0+0=N(-1)(-1)(-2)(2)(-1)(3)$$

or, $-12=12N$; *i.e.*, $N=-1$ the required sum.

3. Evaluate $\dfrac{1}{ab-ax}-\dfrac{1}{bx-ab}+\dfrac{x}{(x-a)(bc-cx)}$

when $x=\dfrac{2bc}{ab+ac+bc}$

Write x first in every term thus

$$-\frac{1}{a(x-b)}-\frac{1}{b(x-a)}-\frac{x}{c(x-a)(x-b)}$$

$$=-\frac{\frac{x}{a}+\frac{x}{b}+\frac{x}{c}-2}{(x-a)(x-b)}=\frac{0}{(x-a)(x-b)}=0.$$

Since $x(ab+ac+bc)=2bc$

or $x\left(\frac{1}{a}+\frac{1}{b}+\frac{1}{c}\right)=2$, from the given relation.

4. Evaluate $\dfrac{1}{x-3a}+\dfrac{1}{x-3b}+\dfrac{1}{x+3c}$, when $\dfrac{1}{a}+\dfrac{1}{b}=\dfrac{1}{c}$, and $x=2(a+b-c)$. Restore symmetry by writing $-c$ for c throughout the three expressions. Then numerator of sum

$=(x-3b)(x-3c)+(x-3a)(x-3c)+(x-3a)(x-3b)$

$=3\{x^2-2(a+b+c)x+3(ab+ac+bc)\}$. Now each of the first two terms $=0$, since $x=2(a+b+c)$, and therefore $x^2=2(a+b+c)x$. Also the third term $=0$, since $\dfrac{1}{a}+\dfrac{1}{b}+\dfrac{1}{c}=0$, and $\therefore$ $ab+bc+ca=0$

Hence the whole expression $=0$.

5. If $\dfrac{1}{a}+\dfrac{1}{b}+\dfrac{1}{c}=\dfrac{1}{a+b+c}$ show that $a^2=b^2=c^2$

$$\frac{a+b}{ab}=\frac{1}{a}+\frac{1}{b}=\frac{1}{a+b+c}-\frac{1}{c}=\frac{a+b}{c(a+b+c)}=(a+b)\left(\frac{1}{ac}+\frac{1}{bc}+\frac{1}{c^2}\right)$$

from the given relation.

$\therefore$ $(a+b)\left\{\dfrac{1}{ab}-\dfrac{1}{ac}-\dfrac{1}{bc}-\dfrac{1}{c^2}\right\}=0$. Wherefore, we must have either $a+b=0$,

or $\dfrac{1}{ab}-\dfrac{1}{ac}-\dfrac{1}{bc}-\dfrac{1}{c^2}=0$, and this latter will not be altered by interchanging a, b, and c.

$$\therefore\ \frac{1}{a^2}=\frac{1}{b^2}=\frac{1}{c^2}\ \text{or}\ a^2=b^2=c^2$$

Or, we may factor thus

$$\frac{1}{a}\left(\frac{1}{b}-\frac{1}{c}\right)-\frac{1}{c}\left(\frac{1}{b}-\frac{1}{c}\right)=0$$

i.e., $\left(\dfrac{1}{a}-\dfrac{1}{c}\right)\left(\dfrac{1}{b}-\dfrac{1}{c}\right)=0$

$\therefore$ we must have either $\dfrac{1}{a}-\dfrac{1}{c}=0$, *i.e.*, $a=c$, or $\dfrac{1}{b}-\dfrac{1}{c}=0$, *i.e.*, $b=c$

$\therefore$ $a^2=b^2=c^2$ as before.

6. If $\dfrac{ad-bc}{a-b-c+d}=\dfrac{ac-bd}{a-b+c-d}$, and a is not $=b$, nor $c=d$ prove that $a+b=c+d$, and that each fraction $=\frac{1}{4}(a+b+c+d)$.

We have $\dfrac{ac-bd}{ad-bc}=\dfrac{a-b+(c-d)}{a-b-(c-d)}$. Adding and subtracting 1

$$\frac{ac-bd+ad-bc}{ac-bd-ad+bc}=\frac{a-b}{c-d};$$

or, $\dfrac{(a-b)(c+d)}{(c-d)(a+b)}=\dfrac{a-b}{c-d}$

And $a+b$ must be $=c+d$,

i.e., $a-c=d-b=x$ say, $\therefore$ $a=c+x$, $d=b+x$

and $a-b-c+d=2x$

$\therefore$ 1st fraction $=\dfrac{(c+x)(b+x)-bc}{2x}=\dfrac{b+c+x}{2}=\dfrac{a+b}{2}=\dfrac{a+b+c+d}{4}$.

7. If $x=\dfrac{1}{\sqrt{b}+\sqrt{c}-\sqrt{a}}$; $y=\dfrac{1}{\sqrt{c}+\sqrt{a}-\sqrt{b}}$;

$z=\dfrac{1}{\sqrt{a}+\sqrt{b}-\sqrt{c}}$; and $u=\dfrac{1}{\sqrt{a}+\sqrt{b}+\sqrt{c}}$ show that

$$\frac{(y+z-x+u)(z+x-y+u)(x+y-x+u)}{(x+y+z-u)^3}=\frac{(b+c-a)(c+a-b)(a+b-c)}{8abc}$$

Take the first factor of numerator on the left, we have identically,

$$y+z-x+u=y+z-(x-u)$$

$$=yz\left(\frac{1}{z}+\frac{1}{y}\right)-xu\left(\frac{1}{u}-\frac{1}{x}\right),\ \text{and from given}$$

relations, this $=2\sqrt{a}(yz-xu)$,

$$=2\sqrt{a}\left(\frac{1}{xu}\ \frac{1}{yz}\right)yzxu,$$

$$=2\sqrt{a}(b+c-a)2xyzu.$$

Wherefore by symmetry the second factor, (with $-y$ instead of $-x$) is

$$=2\sqrt{b}(c+a-b)2xyzu,\ \text{and the third}$$

$$=2\sqrt{b}(a+b-c)2xyzu;$$

Hence numerator $=64\sqrt{abc}.x^3y^3z^3u^3(b+c-a)(c+a-b)(a+b-c)$

Similiarly in the denominator we have identically

$$(x+y)+(z-u)=xy\left(\frac{1}{y}+\frac{1}{x}\right)+zu\left(\frac{1}{u}-\frac{1}{z}\right)$$

$$=2\sqrt{c}(xy+zu)\ \text{from given relations,}$$

$$=2\sqrt{c}\left(\frac{1}{zu}+\frac{1}{xy}\right)xyzu$$

$$=2\sqrt{c}.4\sqrt{ab}.\ xyzu=8xyzu\sqrt{abc}.$$

$$\therefore\ (x+y+z-u)^3=$$

$$=64\sqrt{abc}.\ x^3y^3z^3u^3.\ 8abc$$

$\therefore$ given fraction on the left $=\dfrac{(b+c-a)(c+a-b)(a+b-c)}{8abc}$.

8. Show that $x^{m+n}+y^{m+n}>x^my^n+x^ny^m$. If it be $>$, then

$$x^{m+n}-x^my^n+y^{m+n}-x^ny^m>0$$

i.e., $x^m(x^n-y^n)-y^m(x^n-y^n)>0$

or $(x^m-y^m)(x^n-y^n)>0$. Now if $x>y$ both factors are positive, and if $x<y$ both factors are negative, so in any case this product is >0, unless $x=y$.

9. Show that $x^{2n}+1>x^{2n-2r}$. If it be, transpose and we have

$$x^{2n}-x^{2n-2r}-x^{2r}+1>0,$$

i.e., $(x^{2n-2r}-1)(x^{2r}-1)>0$. Now when $x>1$ both factors are $+$ve and when $x<1$ both factors are $-$ve, so that their product is $+$ve in every case, unless $x=1$.

From this example we may deduce

(*a*) $x^2+\dfrac{1}{x^n}>x^{n-2r}+\dfrac{1}{x^{n-2r}}$.

(*b*) Put $r=\frac{1}{2}$ and $x^n+\dfrac{1}{x^n}>x^{n-1}+\dfrac{1}{x^{n-1}}$,

i.e., as n increases the value of $x^n+\dfrac{1}{x^n}$ increases.

Examples $x^2+\dfrac{1}{x^2}>x+\dfrac{1}{x}$; $x''+\dfrac{1}{x''}>x^7+\dfrac{1}{x^7}$

$$x^n+\frac{1}{x^n}>x+\frac{1}{x}\ \&c.,\ \&c.$$

10. Show that $(x+y+z)^m<3^{m-1}(x^m+y^m+z^m)$

$(x-y-z)^2$ is necessarily $+$ve, *i.e.*, >0

i.e., $x^2+y^2+z^2-2xy-2yz-2zx>0$, or

$$-x^2-y^2-z^2+2xy+2yz+2zx<0$$

i.e., $x^2+y^2+z^2+2xy+2yz+2zx<3(x^2+y^2+z^2)$
or $(x+y+z)^2<3(x^2+y^2+z^2)$

Assume
$(x+y+z)^m<3^{m-1}(x^m+y^m+z^m)$

Now $(x+y+z)=(x+y+z)$. Multiply these

and $(x+y+z)^{m+1}<3^{m-1}(x^{m+1}+y^{m+1}+z^{m+1}+x^my+y^mx+x^mz+z^mx+y^mz+z^my)$

But, by No. 8 of this paper
$x^my+y^mx<x^{m+1}+y^{m+1}$, &c.

$\therefore\ x^my+y^mx+x^mz+z^mx+\&c.<2(x^{m+1}+y^{m+1}+z^{m+1})$

$\therefore\ (x+y+z)^{m+1}<3^m(x^{m+1}+y^{m+1}+z^{m+1})$

That is, if the law holds good for m it also holds good for $m+1$, but we have shown that it does hold good for 2, therefore for 3, &c., and ∴ generally.

11. Find the value of $(a+b-2c)^2+(a+c-2b)^2+(b+c-2a)^2$.

Observe the symmetry. Note that $6a^2-6ab$ is part of the result, therefore by symmetry $6(a^2+b^2+c^2-ab-bc-ca)$ is the whole result, for the perfect squares contain only quantities like the type terms a^2 and ab.

12. Simplify $(a+b+c+d)^5-(b+c+d)^5-(a+c+d)^5-(a+b+d)^5-(a+b+c)^5+(b+c)^5+(a+c)^5+(a+b)^5+(a+d)^5+(b+d)^5+(c+d)^5-(a^5+b^5+c^5+d^5)$. The expression is symmetrical with regard to a, b, c, and d.

If $a=0$, expression becomes
$(b+c+d)^5-(b+c+d)^5-(c+d)^5-(b+d)^5-(b+c)^5+(b+c)^5+c^5+b^5+d^5+(b+d)^5+(c+d)^5-(+b^5+c^5+d^5)=0$

Hence a is a factor, *i.e.*, $abcd$ is a factor. Now there must be another symmetrical factor of *one* dimension to make up the *five* dimensions required, and $a+b+c+d$ is the only such factor possible Therefore expression$=Nabcd\ (a+b+c+d)$. Find N by putting a, b, c, d = any quantities except 0, which would make N vanish and thus prevent us from finding its numerical value; $a=-1$, $b=-2$, $c=1$, $d=2$ will be convenient values. $\therefore N-60$, and given expression$=60abcd\,(a+b+c+d)$. Let the reader apply to this example the method used in number 11. See May number of this Journal for 1882, page 103.

13. Simplify $(y-z)^6+(z-x^6)+(x-y)^6-3(y-z)^2(z-x)^2(x-y)^2-2(x^2+y^2+z^2-xy-yz-zx)^3$

Put $a=(y-z)^2$; $b=(z-x)^2$; $c=(x-y)^2$; and therefore $\sqrt{a}+\sqrt{b}+\sqrt{c}=(y-z)+(z-x)+(x-y)=0$ (A)

and $a+b+c=(y-z)^2+(z-x)^2+(x-y)^2=2(x^2+y^2+z^2-xy-yz-zx)$ (B)

Substituting a, b, and c, and $a+b+c$ in the given expression we have at once

Expression $=a^3+b^3+c^3-2abc-\frac{1}{4}(a+b+c)^3$. Factor out $a+b+c$
$=(a+b+c)\{a^2+b^2+c^2-ab-bc-ca-\frac{1}{4}(a+b+c)^2\}$
$=(a+b+c)\{a^2+b^2+c^2-ab-bc-ca-\frac{1}{4}(a^2+b^2+c^2+2ab+2bc+2ca)\}$
$=(a+b+c)\{\frac{3}{4}(a^2+b^2+c^2)-\frac{3}{2}(ab+bc+ca)\}$
$=\frac{3}{4}(a+b+c)\{(a^2+b^2+c^2)-2(ab+bc+ca)\}=0$; for the 2nd factor $=0$ from (A) thus,

$\sqrt{a}+\sqrt{b}+\sqrt{c}=0$ ∴ squaring and transposing $a+b+c=-2(ab+bc+ca)$

squaring again and factoring the last member we have
$a^2+b^2+c^2+2(ab+bc+ca)=4(ab+bc+ca)+8\sqrt{abc}\,(\sqrt{a}+\sqrt{b}+\sqrt{c})$,
i.e., $=4(ab+bc+ca)+0$;

transposing $(a^2+b^2+c^2)-2(ab+bc+ca)=0$. Therefore the given expression is $=0$.

ARITHMETICAL PROBLEMS.

1. The amount of \$100 for 125 years at 3% compound interest is invested in 3% stock at 95. Given $1{\cdot}03^{50}=4{\cdot}383906$; find the annual income, correct to four decimal places.

Ans. \$127.0708.

2. A man signs a promissory note for \$1045 due in two years, and immediately invests in 3% stock a certain sum, and the next year an equal sum, the dividends in each case to be invested in the same stock which remains steadily at 73. At the end of the time the accumulated investments just meet the note. Neglecting brokerage, find the sum invested each time.

Ans. \$491$\frac{459}{598}$.

3. Pure gold is worth \$20·62½ per ounce; 18lbs. of gold and silver mixture is worth \$3473·25, but if the silver were gold and the gold silver the mixture would be worth \$1278·75. Find the weight of the silver in the mixture, and its value.

Ans. 5lbs. at \$1.37½ cents per oz.=\$70.12½.

4. In a meadow of 20 acres the grass grows uniformly, and 133 oxen in 13 days can consume it, or 28 oxen can eat up 5 acres of it in 16 days; how many oxen could eat up 4 acres of it in 14 days?

COLENSO'S SOLUTION. 133 oxen to 20 acres is 26⅔ oxen to 4 acres.
28 " 5 " 22⅔ " 4 "

∴ 22·4 oxen : 26·6 oxen :: 13 days : 15$\frac{7}{16}$ days.

i.e., 3 days' growth eaten by 22·4 oxen in $\frac{9}{16}$ day.

∴ $\frac{9}{16}$ days : 16 :: 3 days' growth : 85⅓ days' growth.

i.e., original grass = 85⅓ − 16 = 69⅓ days' growth.

∴ (16 + 69⅓) : (14 + 69⅓) :: 22·4 : 25.

Ans. 25 oxen.

5. The premium of gold at Paris is 7½ per mille, which at the English mint price of £3 17s. 10½d. per ounce for standard gold, gives exchange 25·35¾; and the actual rate of exchange at Paris on London is 25·33½; show that gold is about ·088 per cent. dearer in Paris than in London.

CAMBRIDGE, ENG.—PREVIOUS EXAMINATION.

ARITHMETIC.

1. At the recent Cambridge election plumpers, *i.e.*, single votes, were given 23 for Fowler, 31 for Marten, 6 for Shield, and 3 for Smollett: split votes, *i.e.*, one each for candidates, were given 64 to Fowler and Marten, 2281 to Fowler and Shield, 18 to Fowler and Somollett, 33 to Marten and Shield, 1875 to Marten and Smollett, and 6 to Shield and Smollett. How many votes did each candidate receive? and how many voted?

Ans.—Fowler 2386, Shield 2326, Marten 2003, Smollett 1902. Number of votes 43040.

2. Show that $9\times10\times11+12\times13\times14+3\times11\times14\times23=23\times24\times25$.

3. Simplify $\dfrac{\frac{1}{5}-\frac{1}{6}+\frac{1}{9}-\frac{1}{18}}{\frac{1}{4}-\frac{1}{5}+\frac{1}{8}-\frac{1}{9}+\frac{1}{16}}$. Ans. $\frac{64}{91}$.

4. Express as decimals $\frac{2}{11}$ and $\frac{7}{90}$, and subtract one decimal from the other. Also show that one is greater and the other less than the quantity

$$\frac{1}{2\times3}+\frac{5}{2\times3\times4\times5}+\frac{1}{2\times3\times4\times5\times6\times7}.$$

Ans. $\cdot\dot{1}\dot{8}-\cdot175=\cdot00681$.

5. Divide *(i)* 7·0175 by 17·5, and *(ii)* 17·5 by 7·0175 correct to two places of decimals.

Ans. *(i)* ·401; *(ii)* 2·49.

6. Find the cost of a piece of building land containing 2 rods 17 poles at £345 17s. 6d. per acre.

Ans. £209 13s. 8d.

7. If a bankrupt pays 12s. 10d. in the £, how much will a creditor receive to whom he owes £754 10s.?

Ans. £484 2s. 9d.

8. If of every £1000 spent on university buildings St. John's College had to pay £169, for how much of the £4014 8s. 4d. spent upon the literary schools would the College be liable?

Ans. £678 8s. 8d.

9. There was a new moon on June 7th at 9.55 p.m., and the next will be on July 7th at 1.21 p.m. Also the sixth from now will be on Dec. 2nd at 2.56 a.m. What is the interval between the two first mentioned, and how much will it exceed the average of the next five?

Ans. 29 days, 15 hours, 26 minutes; 3 hours, 7 minutes.

10. A railway psssenger counts the telegraph posts on the line, as he passes them, If they are 58 yards apart, and the train is going 48 miles per hour, how many will he pass per minute?

Ans. 24. The number passed in two minutes gives approximately the rate in miles per hour.

11. Which would yield the greater return for an investment, Midland stock at 138¼, or Great Northern stock at 125½, the former paying 5⅝ per cent., and the latter 5⅛ per cent.?

Ans. The latter.

MECHANICS.

1. Enunciate the triangle of forces and its converse.

Forces of 3lbs., 5lbs., and 6lbs. act upon a particle; can they be so placed as to keep it in equilibrium?

2. Assuming the parallelogram of forces, prove that if P, Q, R be any three forces which, acting on a particle, keep it in equilibrium, and α, β, γ denote the angles between Q and R, R and P, P Q respectively, then

$$\frac{P}{\sin\alpha}=\frac{Q}{\sin\beta}=\frac{R}{\sin\gamma}.$$

Three forces keep a particle in equilibrium; one acts towards the East, another towards the North-west, and the third towards the South; if the magnitude of the first force be 3lbs., find the magnitudes of the other two.

3. Resolve a force of 7lbs. into two others, one making an angle of 30° with it, and the other an angle of 60°.

4. Find the magnitude and position of the resultant of two parallel forces acting in the same direction.

Parallel forces of 4lbs. and 9lbs. act in opposite directions at points A and B distant 15 inches apart. How far from the middle point of AB does their resultant cut AB produced?

5. State (without proof) the position of the centre of gravity of a triangle, and show that it coincides with that of three equal particles placed at the angular points of the triangle.

Having given the position of the centre of a body, and also that of a given point of it, show how to deduce the position of the centre of gravity of the remaining part.

6. If two forces acting on a lever keep it in equilibrium, prove that they are inversely proportional to the perpendiculars let fall upon them by the fulcrum.

The longer arm of a lever is 9 inches in length: if the lever be in equilibrium when weights of 3lbs. and 4lbs. are suspended from its arms, find the length of the other arm.

7. In the system of pullies in which each pulley hangs on a separate string attached to the beam, find the relation between the power and the weight when the system is in equilibrium, neglecting the weights of the pullies.

If there are three moveable pullies, the lowest of which weighs 5lbs., the middle one 4lbs., and the highest 3lbs., and the weight is 7lbs., find the power.

8. Describe the Danish steelyard, and explain what is meant by graduating it.

AB is a Roman steelyard 12 feet long; its centre of gravity is 11 inches from A, and the fulcrum 8 inches from A. If the weight of steelyard be 4lbs. and that of the moveable weight 3lbs., find how many inches from B the graduation marked 15lbs. will be.

9. A particle of given weight W is in equilibrium upon an inclined plane whose inclination to the horizon is a, under the action of a horizontal force: find this force and also the pressure on the plane.

A particle weighing $8\sqrt{3}$lbs. is in equilibrium upon an inclined plane under the action of a force of 12lbs. acting parallel to the plane: find the inclination of the plane and the pressure upon it.

RESULTS.

1. Yes. 2. $3\sqrt{2}$lbs.; 3lbs. 3. $\frac{7}{2}\sqrt{3}$; $\frac{7}{2}$. 4. $19\frac{1}{2}$ inches. 6. $6\frac{3}{4}$ inches. 7. 4lbs. 8. 100. 9. 60°; $4\sqrt{3}$lbs.

TRIGONOMETRY.

1. Give the trigonometrical definition of an angle.

What angle does the minute hand of a clock describe between 12 o'clock and 20 minutes to four?

2. Define the sine of an angle, and trace the change in the value of the sine as the angle increases from 90° to 270°.

3. Express the cosine and the tangent of an angle in terms of the sine. The angle A is greater than 90° but less than 180°, and $\sin A = \frac{1}{3}$; find $\cos A$.

4. Find $\sin 60°$ and $\tan 135°$.

5. Prove geometrically $\sin(A-B) = \sin A \cos B - \cos A \sin B$, A and B being both positive angles less than 90°. Show that

$$(i)\ \tan(A+B) = \frac{\tan A + \tan B}{1 - \tan A \tan B};$$

$$(ii)\ \sin 2A = \frac{2 \tan A}{1 + \tan^2 A}.$$

6. Show that, if $A+B+C=180°$,

$$\sin 2A + \sin 2B + \sin 2C = 4 \sin A \sin B \sin C.$$

7. Find an expression for all the values of θ for which $\cos\theta + \cos 2\theta = 0$.

8. Show that in a triangle the sides are proportional to the sines of the opposite angles. If in a triangle $a \cos A = b \cos B$, the triangle will be either isosceles or right-angled.

9. If two sides of a triangle be given, and the angle opposite to the shorter side; show how to find the other side and the other angles. Example: The sides are 1 foot and $\sqrt{3}$ respectively, and the angle opposite to the shorter side is 30°.

RESULTS.

1. $-1320°$. 3. $-\frac{2}{3}\sqrt{2}$. 7. $(2m+1)\frac{\pi}{2}$. 9. 1ft., 120° and 30° or 2ft., 60° and 90°.

Special Articles.

THE GOSPEL OF RELAXATION.

Many readers of the School Journal have some acquaintance with the works of the well-known English philosopher, Mr. Herbert Spencer. Those who are fortunate enough to have studied his educational theories will be pleased to have in a somewhat permanent form the following remarks, which are part of a speech delivered at a farewell entertainment given to him on the eve of his departure from New York. After some general remarks Mr. Spencer continued:—

And now that I have thanked you, sincerely though too briefly, I am going to find fault with you. Already, in some remarks drawn from me respecting American affairs and American character, I have passed criticisms, which have been accepted far more good-naturedly than I could reasonably have expected; and it seems strange that I should now again propose to trangress. However, the fault I have to comment upon is one which most will scarcely regard as a fault. It seems to me that in one respect Americans have diverged too widely from savages. I do not mean to say that they are in general unduly civilized. Throughout large parts of the population, even in long settled regions, there is no excess of those virtues needed for the maintenance of social harmony. Especially out in the West, men's dealings do not yet betray too much of the "sweetness and light" which we are told distinguish the cultured man from the barbarian. Nevertheless, there is a sense in which my assertion is true. You know that the primitive man lacks power of application. Spurred by hunger, by danger, by revenge, he can exert himself energetically for a time; but his energy is spasmodic. Monotonous daily toil is impossible to him. It is otherwise with the more developed man. The stern discipline of social life has gradually increased the aptitude for persistent industry, until among us, and still more among you, work has become with many a passion. This contrast of nature has another aspect. The savage thinks only of present satisfactions, and leaves future satisfactions uncared for. Contrariwise, the American, eagerly pursuing a future good, almost ignores what good the passing day offers him; and, when the future good is gained, he neglects that while striving for some still remoter good.

What I have seen and heard during my stay among you has forced on me the belief that this slow change from habitual inertness to persistent activity has reached an extreme from which there must begin a counter change—a reaction. Everywhere I have been struck with the number of faces which told in strong lines of the burdens that had to be borne. I have been struck, too with the large proportion of grey-haired men, and inquiries have brought out the fact that with you the hair commonly begins to turn some ten years earlier than with us. Moreover, in every circle I have met men who had themselves suffered from nervous collapse due to stress of business, or named friends who had either killed themselves by overwork, or had been permanently incapacitated, or had wasted long periods in endeavours to recover health. I do but echo the opinion of all observant persons I have spoken to, that immense injury is being done by this high-pressure life—the physique is being undermined. The subtle thinker and poet whom you have lately had to mourn, Emerson, says, in his essay on the gentleman, that the first requisite is that he shall be a good animal. The requisite is a general one—it extends to the man, to the father, to the citizen. We hear a great deal about "the vile body;" and many are encouraged by the phrase to transgress the laws of health. But nature quietly suppresses those who treat thus disrespectfully one of her highest products, and leaves the world to be peopled by the descendants of those who are not foolish.

Beyond these immediate mischiefs there are remoter mischiefs. Exclusive devotion to work has the result that amusements cease to please; and, when relaxation becomes imperative, life becomes dreary from lack of its sole interest—the interest in business. The remark current in England, that when the American travels, his aim is to do the greatest amount of sight-seeing in the shortest time, I find current here also. It is recognized that the satisfaction of getting on devours nearly all other satisfactions. When recently at Niagara, which gave us a whole week's pleasure, I learned from the landlord of the hotel that most Americans come one day and go away the next. Old Froissart, who said of the English of his day that "they take their pleasures sadly after their fashion," would doubtless, if he lived now, say of the Americans that they take their pleasures hurriedly after their fashion. In large measures with us, and still more with you, there is not that abandonment to the moment which is requisite for full enjoyment; and this abandonment is prevented by the ever-present sense of multitudinous responsibilities. So that, beyond the serious physical mischief caused by overwork, there is the further mischief that it destroys what there would otherwise be in the leisure part of life.

Nor do the evils end here. There is the injury to posterity. Damaged constitutions reappear in children, and entail on them far more of

ill than great fortunes yield them of good. When life has been duly rationalized by science, it will be seen that among a man's duties care of the body is imperative, not only out of regard for personal welfare, but also out of regard for descendants. His constitution will be considered as an entailed estate, which he ought to pass on uninjured, if not improved, to those who follow; and it will be held that millions bequeathed by him will not compensate for feeble health and decreased ability to enjoy life. Once more, there is the injury to fellow citizens, taking the shape of undue disregard of competitors. I hear that a great trader among you deliberately endeavoured to crush out every one whose business competed with his own; and manifestly the man who, making himself a slave to accumulation, absorbs an inordinate share of the trade or profession he is engaged in, makes life harder for all others engaged in it, and excludes from it many who might otherwise gain competencies. Thus, besides the egoistic motive, there are two altruistic motives which should deter from this excess in work.

The truth is, there needs a revised ideal of life. Look back through the past, or look abroad through the present, and we find that the ideal of life is variable, and depends on social conditions. Every one knows that to be a successful warrior was the highest aim among all ancient peoples of note, as it is still among many barbarous peoples. When we remember that in the Norseman's heaven the time was to be passed in daily battles, with magical healing of wounds, we see how deeply rooted may become the conception that fighting is man's proper business, and that industry is fit only for slaves and people of low degree. That is to say, when the chronic struggles of races necessitate perpetual wars, there is involved an idea of life adapted to the requirements. We have changed all that in modern civilized societies, especially in England, and still more in America. With the decline of militant activity, and the growth of industrial activity, the occupations once disgraceful have become honorable. The duty to work has taken the place of the duty to fight; and in the one case, as in the other, the ideal of life has become so well established that scarcely any dream of questioning it. Practically, business has been substituted for war as the purpose of existence.

Is this modern ideal to survive throughout the future? I think not. While all other things undergo continuous change, it is impossible that ideals should remain fixed. The ancient ideal was appropriate to the ages of conquest by man over man, and of the spread of the strongest races. The modern ideal is appropriate to ages in which conquest of the earth and subjection of the powers of nature to human use is the predominant need. But hereafter, when both these ends have in the main been achieved, the ideal formed will probably differ considerably from the present one. May we not foresee the nature of the difference. I think we may. Some twenty years ago a good friend of mine and a good friend of yours, too, though you never saw him, John Stuart Mill, delivered at St. Andrews an inaugural address on the occasion of his appointment to the Lord Rectorship. It contained much to be admired, as did all he wrote. There ran through it, however, the tacit asssumption that life is for learning and working. I felt at the time that I should have liked to take up the opposite thesis. I should have liked to contend that life is not for learning, nor is life for working, but learning and working are for life. The primary use of knowledge is for such guidance of conduct, under all circumstances, as shall make living complete. All other uses of knowledge are secondary. It scarcely needs saying that the primary use of work is that of supplying the materials and aids to living completely, and that any other uses of work are secondary. But in men's conceptions the secondary has in great measure usurped the place of the primary. The apostle of culture as it is commonly conceived, Mr. Matthew Arnold, makes little or no reference to the fact that the first use of knowledge is the right ordering of all actions; and Mr. Carlyle, who is a good exponent of current ideas about work, insists on its virtues for quite other reasons than that it achieves sustentation. We may trace everywhere in human affairs a tendency to transform the means into the end. All see that the miser does this when, making the accumulation of money his sole satisfaction, he forgets that money is of value only to purchase satisfactions. But it is less commonly seen that the like is true of the work by which the money is accumulated—that industry, too, bodily or mental, is but a means, and that it is as irrational to pursue it to the exclusion of that complete living it subserves, as it is for the miser to accumulate money and make no use of it. Hereafter, when this age of active material progress has yielded mankind its benefits, there will, I think, come a better adjustment of labor and enjoyment. Among reasons for thinking this, there is the reason that the process of evolution throughout the organic world at large brings an increasing surplus of energies that are not absorbed in fulfilling material needs, and points to a still larger surplus for humanity of the future. And there are other reasons, which I must pass over. In brief, I may say that we have had somewhat too much of "the gospel of work." It is time to preach the gospel of relaxation.

This is a very unconventional after-dinner speech. Especially it will be thought strange that in returning thanks I should deliver something very much like a homily. But I have thought I could not better convey my thanks than by the expression of a sympathy which issues in a fear. If, as I gather, this intemperance in work affects more especially the Anglo-American part of the population—if there results an undermining of the physique, not only in adults, but also in the young, who, as I learn from your daily journals, are also being injured by overwork—if the ultimate consequence should be a dwindling away of those among you who are the inheritors of free institutions and best adapted to them; then there will come a further difficulty in the working of that great future which lies before the American nation. To my anxiety on this account you must ascribe the unusual character of my remarks.

MORALITY IN OUR SCHOOLS AND HOW TO TEACH IT.

The following is an abridgement of an address delivered on this subject to the Oxford teachers' association by the Rev. John McEwen. After distinguishing between what he called the "upper" and "lower" planes of educational effort—the former belonging to high schools and universities, and the latter to all grades below these—and defining, in a general way, the relation of morality to religion, the lecturer proceeds:—

Having emphasised the supremacy of morals—and the potency of the teacher—we come to the second part of our subject:—"How is this work to be carried on?" In this investigation we have defined to ourselves what we mean by morals in schools, namely:—"A religious atmosphere in which reverence for God and loyalty to our duty as teachers, fill the nature and hallow the work." We must now outline the methods, or ways in which the work is to be carried on. We give this outline in the order of nature and its education, and without any exposition, which would require another hour:—

1. The self restraint of the body.
2. Obedience to constituted authority, and submission to righteous rule.
3. A healthy fear of loss and degradation.
4. Sincerity of purpose, expressed in mental and moral honesty.
5. Purity of moral tone and conduct, expressed spontaneously in pure English, and direct words and phrasing.
6. Love of truthfulness, devotion to simple ways, and admiration of noble lives.
7. The Teacher must be an embodiment of what he aims to enforce in school morals.

In this outline, with interpretation lying in the order and between the lines, with ever varying degrees of attainment and shades of manifestation we regard it as thoroughly practical in school life, and constituting the lower, or earthly plane, of the sweetest morals and of lofty character. These pathways of moral life in school have conditions that must be looked after, else our highest aims, and our purest force, may be baulked in their results.

The physical condition of teaching morals. The conditions we are about to enumerate belong to teaching as a work; but we regard them as specially emphasised in the moral aspects of that work.

1. Ventilation, pure air, pure morals.
2. Cleanliness, of person, copies, books, rooms, &c., made clean by clean speech and objects.
3. General ease, and comfort to the body.
4. Constant occupation.

The deadly germs of morality are flooded and hatched in idleness.

The Social condition of teaching Morals:—

1. Order—as voluntarily given as possible.
2. Organized co-operation between the Teacher, and a wise selection of the best portions of the school.
3. Adaptation to the stage of life, or grade of study and as far as possible to individual life.
4. Surroundings that are harmonious with the average social condition of the scholars.
5. Well organized plays, games, recreations that are antidotes to idleness, or riot.

These we conceive to be to moral life on its lower plane, what atmosphere is to physical life—conditions without which the life cannot be held together. The physical conditions give tone to the social conditions, and the social conditions give embodiment to the moral life. At this stage of our paper we wish to say, that we are not pleading for a place on the time table, for morals in the lower

plane of school life, but that the elements we have enumerated should pervade the time table, and be the animating and elevating, and cleansing spirit of its execution. In other words morals should be co-ordinated

1. With the mechanical department of education—reading, writing drawing &c.
2. With all instructional subjects—or all the "fact lore," of school life.
3. With disciplinal subjects—arithmetic, mathematics.
4. With educational subjects—grammar, language, composition.

Why? How? Conduct, aim, motive, purpose must enter into them all; and though the subjects may be colorless as to moral tone; the pupil and the work may not, perhaps cannot be thus neutral; and the teacher, if himself co-ordinated morally to his high calling, will be able to attain that for which we plead. By stimulating the pupil to the best possible attainment in the mechanical department; eagerly treasuring the best in fact lore, strengthened and sustained by the absolutely certain results, from the absolutely true powers and processes in all disciplinal subjects, elevated by the measures of growing clearness in language, and thought, and thinking. Thus the golden thread of truthfulness, honour, fairness in means and methods; duty, courage, fidelity would become inwoven in the texture and fibre of school life, and morals, like healthy perspiration, would suffuse the entire body.

There still remains to be mentioned as a means of teaching morals in our schools the text books in readers. These largely furnish the material to be employed in teaching morals—further, these make up the literature of school life. Literature is the outcome of the moral and intellectual life of a nation—it has gems of thought and beauty—the colour of the conception and the beauty of the expression can nestle nowhere so securely as in the school boy's memory; and often in days of darkness and loneliness, these shine out as stars of comfort and guidance—goodly thoughts and well chosen words that have cadence to the ear, music to the heart, and that gladden the imagination with a sweet delight—the gems often and unconsciously become the ideals of future life, and under new conditions and circumstances, arise in new and more elevating forms. Biography, the soul of history, furnishes examples of men, who though dead, are yet speaking; of patriotism, of moral heroism, self-sacrifice, purity, nobleness of moral influence. The literature of the world embodies the purest catholicity of creed in morals; and this kind of right reading ensures the right thinking, and in turn this secures the right kind of conduct. "As the man, or the child thinketh, so he is," and this constitutes the citadal of moral life. After a careful examination of our recognized school readers, at different periods of time, and after comparing them with competitors for attention, we are compelled from the view point of this paper, to to the conclusion, that considering the supreme importance of morals in school work, and on the lower plane of that work, and remembering that here, the direction of life is largely given—the switch point in fact is here—it were difficult to compile a class of readers more neutral, more colourless in moral tone, than those now in use. In fact lore in the physical sciences, and other departments of knowledge, reveals the purpose of the compilers, the controlling purpose, and the selections with distinctive moral aims, are incidental, and are not of such a character as to co-ordinate, and dominate the purpose of the books; they neither nerve the teacher nor inspire the scholar. To demand a reader made up of selections from the biography, history, poetry, and the laws set forth in that book, *par excellence* called The Book, is simply to honour the survival of the fittest; the analysis of expression, figures, references to nature, God, and duty, say of the Book of Job, the highest poetry of the sublimity of nature, or sections of the Psalms, the deepest and the truest lyricis of human experience, would for the teacher and taught, examiners and examined, do more for moral tone than Scott and Goldsmith seven times purified; and the hesitancy to follow in this line, and to make such a reader obligatory with other books, can arise only from the forgetfulness of a stern fact, that thirty years ago, when the foundations of our system of Public Education were laid, in a period of prolonged, and bitter controversy, what is now assumed to be an infallible and unchangeable principle, was simply a compromise to unite all the grades of religious opinion—and it failed in that. Separate schools were conceeded after the compromise was made, but we have continued to work by it. It is not an open question—that this Book dominates the literary work of modern life with its moral power. And what we wish to appear in national, life must be taught in our shcools.

HABITS OF STUDY.*

In gatherings of this description, when members of an influential profession meet to consider subjects bearing intimately upon their modes of work, and to discuss interests peculiar to themselves, it soon becomes difficult to select subjects that have not been worn thread-bare. While the three R's, arithmetic, writing, and reading have justly had the greatest attention given to them, they have become rather monotonous, and in common with some other branches, as history and geography, will never have, in my opinion, their best methods of instruction illustrated in the most efficient manner, until some master of the subject, and still more master of the art of successfully teaching it, can in our presence with his own pupils impress that art upon our minds by sight as well as hearing, by deeds as well as words.

Besides that knowledge and practical experience necessary to handle classes satisfactorily in the ordinary subjects as set forth in the "Official Programme of studies for the schools of Ontario," there are so many other matters that challenge the attention and demand the thorough acquaintance of anyone who may wish to attain to my ideal of a teacher, which in government—as the teacher stands in *loco parentis*, in the parents stead—is the happy union of self-control, justice, firmness, and affection, in teaching proper; the display of plainness, thoroughness, and sympathy in the mental troubles of his little learners; in scholarship, the possession of a culture at once broad and deep; in manners, the grace and attractiveness of a true lady or gentleman. The last division of my ideal is not the least important, as school life comprises the half of a child's concious existence from 6 to 16, and as the period of childhood is above all the other periods of life that of inititation. The pen or voice of some village Chesterfield may, and that ere long, open our eyes to the benefits that accrue to society from the graces and refinements unconsciously gained in the school-room by men and women, who as children came from homes where graces and refinements were never known. The first and second divisions, government and instruction, appear in part upon the Institute's mental bill of fare, I shall try to present a few thoughts upon the third division, scholarship, or more correctly the way to attain it, and the way to keep t when it has been attained. "Man," it has been tritely said, "is a bundle of habits," and since a considerable portion of a teacher's time is, or should be, spent in study, it is eminently important that he acquire correct mental and physical habits in pursuing his studies. I shall mention some habits, the possession of which to my mind seems necessary to any person who aims at becoming a successful student teacher.

The habit of economizing time: 'Time is money' in a student's business as well as a merchant's. The teacher with his Saturdays

*Read by the late S. P. Davis, M.A., at the Perth Co. Teachers' Association in Stratford, November, 1878; and also at the Durham Co. Association, Port Hope, last spring

long evenings and mornings—without mentioning his vacations—is the fortunate possessor of an abundance of this prime requisite of success. Many a bright lad on his feet from 7 in the morning till 10 at night in many a shop in our cities and towns would leap for joy at the thought of possessing one-sixth of the work-days of the year to devote to the improvement of his mind and to revel among his beloved books—now torn from his hand by a cruel necessity. "How shall I best economize that treasure," for one hour of which our proudest Queen once offered her kingdom, but offered in vain, should be the daily question of every student. Time is lost by commencing studies that are never completed. The man who begins to build, but for some reason or other cannot finish, has been the object of centuries of derision. Never give up anything you have begun in your work, if it be, right until completed. Do not, to save time, rob your couch of the hours of needful rest, for the late sitter burns the candle of life at both ends; but while you do not trench upon that amount of sleep which is imperatively demanded by nature for the recuperation of the exhausted powers of mind and body, at the same time be careful that you do not shorten your days by lengthening your nights. I think—and experience and observation will bear me out—that the man who is never out of bed after 10 or in it after 6, will perform the most of any kind of labor that can be done in a day between those hours, and with the least amount of physical weariness. Keeping these hours, what time do we find at a teacher's disposal? From 4 to 5.30 for a bracing walk or a pleasant drive, with half an hour to look at school exercises, an hour to spend over "the cup that cheers but not inebriates," and to join merrily in the social chat and pleasantries of his lodging. Then from 7 to 10 every evening, and from 6 to 7.45 every morning gives 3¾ hours daily, exclusive of Saturdays, to devote to our books, those silent faithful friends that "give new views to life and teach us how to live," to roam with Homer by the fair flowing rivers in the land of Troy, to live with Milton and his sinless pair in Eden's bowers, to sail with Washington Irving and his Columbus towards the home of the setting sun, to hear again the lofty eloquence of Burke and the thunderings of Chatham; those silent, faithful friends of whom Cicero says, "they nourish youth and delight old age, add graces to success and afford a refuge and solace in reverses and griefs, delight us at home and do not hinder us in our business, are with us in the night watches, and go with us on our journeys and to our holiday retreats." Then husband your time. That man who can make two blades of grass grow where but one grew before is said to be a public benefactor, and I do not hesitate to say that he who could shew you a means of increasing the time at your command for private improvement, would prove a great benefactor to you. It is not necessary to fly from your books in order to rest your mind, for variety of studies will, if you acquire the habit, relieve and refresh the mind quite as well as entire cessation from study. So English, book-keeping, or science may interchange with mathematics, and result in saving time and avoiding mental fatigue.

The habit of Perseverance.—After you have laid down a good working plan of study, do not change often. "There is no royal road to learning," and a good deal of toilsome plodding is ahead of any teacher who would travel far on this same road to learning. He will need to back up all his mental and physical powers with a strong reserve of this "stick-at-it-iveness" in order to climb the Examination Hills which industrious Public Overseers have cast up in the way. "The indescribable virtue of standing in a spot," *nescia virtus stare loco*, was the quality, to the possession of which a Latin writer ascribed the marvellous successes of Julius Cæsar. Whatever he determined to do was done; when he planted his foot upon a place it was never with-drawn until his purposes were accomplished, and the result was that never before did the Roman eagles have a flight so bold or far. I saw a man try four times in succession to pass the final university examination for a degree in Arts. He taught his rural school every summer and winter, and his regular appearance every spring was a tradition among the undergraduates before I ever met him. At the fourth trial he succeeded. Repeated failures had not conquered his indomitable will. Hundreds would have abandoned the trial in despair, his persevering efforts in the end laid the garlands of victory at his feet. Some may think this perseverance, this devotion to study, can only be attained by sacrifices too great for them to make. Yes! there may have to be a little less sleep, a little less slumber, a little less folding of the hands to sleep, less time for arraying themselves in broad cloth and fine linen, still less for rounds of pleasure and the Saturday's ornamentation of the side-walk. Sacrifices, indeed of the greatest magnitude, but entailing small harm upon any young man who makes them.

Thoroughness:—It has been said that passing through a course of study is like conquering a country. If you completely master everything you meet you will advance with confidence, but if you leave here and there a garrison unsubdued, you will soon have a force hanging on your rear that will inflict upon you endless vexation and trouble. I find that the cultivation of the faculty of observation is a valuable aid to thoroughness. Observation is a primary essential in obtaining a practical knowledge of the sciences, and I have tested its worth in improving some of my pupils' acquaintance with orthography. Steadily look at a word for a moment and the chances are its form will be indelibly impressed upon the mind. In turning up a word in a dictionary, always note its spelling, pronunciation, derivation and meaning in the passages cited. In Mathematics never be satisfied with "nearly right" for an answer. Accuracy and thoroughness are the only foundations upon which a solid, useful super-structure of learning can be reared.

The practice of writing any passage one may desire to memorize will be found a valuable help to the attainment of accuracy. Any mistake is recorded in black and white, and strikes one's attention in a way that is impossible in verbal repetition, while the advantage of comparison with the original is also obtained.

Reviewing:—After accuracy, application and economy of time have largely stored our minds with the treasures of knowledge, it behooves us to devise some means of preventing their loss. There are a few men who have memories so retentive that they retain their reading for a life-time, but with common mortals unless its acquaintance be renewed, the lapse of a few months will cause the details of a subject to grow dim, a year, or two destroy its divisions, a decade blot out its last faint outlines from the tablets of the mind. If our means of bread-winning did not admit of any result different from this, the discipline received by our minds while acquiring the knowledge so soon forgotten, would still place us immeasurably above those of our fellow-toilers who had lacked our advantages. For in solving the problems constantly arising in some of the many phases of life, an untrained mind can no more equal one disciplined by study and strengthened by employment, than can the hand of the coal-heaver vie with the skill that directs the lancet, or speeds the rifle bullet on its unerring flight.

But there is no excuse for any student losing his knowledge. One half-hour a day of the time mentioned before, spent in reviewing will keep of all the rust spots of forgetfulness that can possibly form. Many boast off trying to forget the attainments exacted by their teachers, as soon as they have served their purposes. I do not envy, and never desire to imitate, them. Without review the student pursues his way in a fog. Any one can travel in a fog—but with no degree of certainty or comfort, because that part of the road over which he has passed is hidden from his sight, and he can

not discern his way-marks. This habit of reviewing will bring us to meet again our favorite passages—meetings which will have all the interest and pleasures of the rare interviews of old and trusty friends. One of England's finest critics has said that when men become old they find most pleasure in revisiting the scenes of their child-hood, so in their reading they pass by the multifarious volumes they have pursued in their prime, and return to the Shakespeare and Horace of their boyhood hours, thus proving they can pluck the sweetest flowers in the gardens they know the best.

Attention:—Perhaps there is no mental habit so difficult to attain, and so hard to keep as that of attention. You shall see students ostensibly engaged at some study, whose imaginations have taken the wings of the morning—and the future lawyer or divine will be electrifying audiences by his eloquence, the young warrior bounding first into the deadly breach, charging at the head of his regiment amid "the pomp and circumstance of war," ardent disciples of Isaac Walton will be revelling in the prospect of cloudy May mornings and baskets of lusty trout, while intelligent young ladies demurely endeavouring to satisfy the unknown value represented by "*x*," have this moment concluded with supreme contentment that "that Miss. Jenkins looked perfectly horrid last Sunday," and that "Demorest's new style of hat is just lovely." The pleasures of imagination are sweet, but are only to be cautiously indulged in, for the world we live in is a world of realities, and not the fairy-land of dreamers, as its rude knocks often inform them. The mind is a restless rover and can only be tamed by a firm determination to keep it fixed upon the hard, dry task. This attention will come more readily to-morrow than to-day, and depend upon it you will never become distinguished in any way unless you can centre your entire being upon the work you may have in hand. A wiser man than I has said, 'there is a time for all things,' work as well as play. When you work, do it with all your might. Check promptly any desires for rambling away from the subject you may have in hand, and if from some cause or other, you cannot fix your mind attentively upon it—shut the book—for your time is wasted over it. Sydney Smith says of Coleridge that they were once engaged in conversation in the streets of London, with Coleridge in his favorite position—one hand grasping a button on his friend's coat—who as the poet dived into some abstruse subject, drew his knife, slipped off the button, walked around the square, and upon returning found the Author of the "Ancient Mariner" button in hand, busy conversing as if nothing had happened. Such abstraction is rare and perhaps undesireable, but is rather to be chosen than the rambling habits so common.

How to read a book:—I would commend to your consideration Bacon's "Essay on Studies" as an authority on this point. Here what he says, "Read not to contradict or confute; nor to believe or take for granted; nor to find talk and discourse; but to weigh and consider. Some books are to be tasted, and others to be swallowed, and some few to be digested; that is, some books are to be read only in parts, others to be read not curiously; and some few to be read wholly with vigilance and attention." Always look at and taste your mental dish before beginning to eat in earnest. Glance at the title page, note the publisher's name, scan the preface to see what sort of bow the writer makes to you. Take up a chapter and if you find it weak or common-place, throw the book aside. Mark those passages that arrest your attention by their depth of thought or elegance of diction, in order to facilitate future reference. Keep a note book or *ludex rerum* arranged according to fancy, and in it note references to illustrations, matters of history, geography and customs.

Physical Habits:—It is not my intention to enlarge upon this important part of my subject, for, fully concurring with Lord Lytton, "that life is too short for long speeches," I do not desire to wear out your patience with a long essay. It has always seemed to me somewhat strange to hear the student's calling termed an unhealthy one. Arduous I admit it is, demanding indeed a sound mind in a sound body, for its successful pursuit; but if a five years' experience will warrant the statement, I must aver, and that most strongly, that I do not believe the calling of teaching is of itself unhealthy. Even if we have to take an extra class or two out of hours—and the demands of our educational supervisors require that of most of us,—our work is concluded in seven hours. All the day long surrounded by ranks of merry little folks in their freshness, innocence, and beauty, coming nearest of animate things to the flowers with which the earth is decked to woo us to love it; every day meeting those "shining morning faces," and the fault is not theirs if they do not "shine" with intelligence the whole day through; it would seem to me the teacher may, if he choose, drink daily from the fountain of perpetual youth. Control your tempers and ventilate your rooms, and you will never find sickness there. In your study preserve eye-sight by sitting side-ways, or with your back to the window, by never reading during twilight, and by using a shade for your lamp. Sit erect at your desks and thereby avoid contraction of the chest, drooping of the shoulders, and curvature of the spine. An erect and well developed figure is a goodly possession, which, if the principles of physiology and hygiene are understood and practised, there is nothing in study to rob us of. Spring and summer months invite the student to the cricket-field and long rambles, and he may combine pleasure and profit if he take up the study of the plants and woodland flowers he may there meet with. In the stormy winter days when roads are impassable from snow or mud—the latter not an uncommon commodity in Ontario—the time honored saw-horse will repay its driver with a sharpened appetite and strengthened muscles. A pair of dumb-bells, or, better still, indian clubs, should be in every student's room; the latter when light are specially adapted to the use of ladies and admit of a wonderful variety of motion. Indeed I see no valid reason why our claims to the brown hands and bronzed cheeks of sturdy health are not as good as those of any calling except that of the sea, or of the tiller of the soil.

Patience:—Many an interruption must be expected during our study hours; it will not do to lose one's temper over them. Of all the virtues that of patience is perhaps the one most wanting among men generally, and among dwellers in the New World particularly. Our politicians are years in the public eye before they would dare to make a second speech in the British Commons. Our merchants look for their fortunes at every January stock-taking; our girls and boys are young ladies and gentlemen before in the old country they could appear among the home guests at an evening party. All this impatience to advance may, and does too often, communicate itself to our studies, and leads us to pass from book to book and from study to study without giving to each that closeness and amount of attention, that breadth and depth of research which alone can make a man a thorough and accomplished scholar.

It may not be out of place to ask in conclusion, whether the results that follow such application as I have here marked out, will sufficiently reward the student teacher. Leaving out of consideration the material advantages of largely increased salaries and improved situations, I may say in these days of official restraint and plentiful inspection, when promotion examinations, entrance examinations—intermediate examinations, professional examinations, and non-professional examinations are so numerous, that one would not be far astray in naming the time in which we live the "age of examinations," there is an amount of respect, self-command, and a sense of comfort, unknown before, when you can meet your examiner or inspector with the knowledge that your certificate or degree is as high as his own; and if your progress in the art of teaching—by which I mean what is comprised in ease and thoroughness in imparting instruction, tact and firmness in government, ability in organization, and a deep insight into child-nature—if your progress in this art of teaching has kept pace with your advancement in literature and science—as it will have done, if you are wise and desire to to become respected and eminent in your profession—then in mental training, organization, and deportment, few pupils will be found to equal, and none to surpass your own.

Epitome is good privately for himselfe that doth worke it, but ill commonlie for all other that use other men's labor therein: a sillie poor kind of studie, not unlike to the doing of those poor folke, which neyther till, nor sowe, nor reap themselves, but gleane by stealth, upon other men's ground. Such have empty barns for deare years,—*Ascham.*

THE PROBLEM OF TEACHING TO READ.

BY J. M. D. MEIKLEJOHN, M.A.

(Continued from last month.)

But perhaps the words which we received from the Norman-French settlers—words, several thousands of which we still have, like *palace, peer, parliament*, and others—will be of better and more regular formation, and will help the child with kindly experiences. Perhaps the symbols in them will be always true to the sounds; and the sounds to the symbols. Not so. The case is nearly as bad in the Norman-French words as in English. The two malformations exist there in quite as pronounced a fashion, though not in quantity so large. Thus we have the first malformation—the case of the **fixity of the symbol**, and the **fluctuation** and uncertainty **of the sound**:

T	ou	rist	=	oo
P	ou	ltry	=	o
C	ou	nty	=	ou
C	ou	ntry	=	ŭ

And we have also the second malformation, where the **one sound** is rendered to the eye in several **various forms**—where the **sound is fixed**, and the **symbol fluctuates**.—Thus we have:

Iss	ue		= u
V	iew		
B	eau	ty	
N	ui	sance	
N	ew		

And

P	eo	ple	= ē
Rec	ei	ve	
Rel	ie	f	
Fat	i	gue	
Est	ee	m	

Now an alphabet which spells a long *ē* with an *eo*, or an *ie*, or an *ei*, or an *i*; or which spells a long *ū* with an *ue*, or an *iew*, or an *eau*, is not one which is of very great value for the learner. It is an alphabet which is true to its past; but the gold lace and the cord and the tags and the broad flaps and the other ancient decorations of the coat only serve to make its inadequacy to the use of the child all the more marked and ridiculous.

What, now, of the LATIN NOTATION? It is quite regular; as is plain from the following:

D	ate	Sound	Con sume
R	ate	and	Pre sume
St	ate	Symbol	Re sume
In	fer	always in	Sub vert
Re	fer	Complete	In vert
Con	fer	Accord	Con vert

But, though it is so perfectly regular, unfortunately for its use to us as teachers, its vocabulary relates to a set of conceptions which do not exist in the mind of a child What child learning to read knows or understands the words *resume, invert*, or *refer?* The Latin words in our language are terms more or less abstract; they are the algebraical marks for totals of experience which the child has never had; they form ideas or marks for a multitude of data not one of which has ever been placed in the child's daily life or experience. Our Latin notation must, therefore, for our present purpose, be left out of the count.

Now the two double and doubly fallacious notations of English and Norman-French are mixed up in ordinary speech and narrative; and the child is set to learn this mixture. He has to work it into his mind by some process which it is very difficult for us to ascertain or to value. What is his actual experience, as he goes through this process? The following is the

EXPERIENCE OF HIS EYE:

1. B oat	= ō	1. W ise	= i + s.
2. T oe		2. B uys	
3. Y eo man		3. P ies	
4. S ou l		4. Eyes	
5. S ow		5. S ize	
6. S ew		6. G uize	
7. N ote		7. S ighs	
8. B eau			
9. H au tboy			
10. Owe			
11. Fl oo r			
12. Oh!			
13. O!			

Here he sees a long *ō* written down in thirteen different ways. Amongst this confusion, he meets with such signs as *w* in *owe* or *gh* in *sigh*, which represent a vanished guttural. He sees a long *ī* with an *s* printed in seven different ways; and yet the sound he renders it by is always the same.

Under these circumstances, the scholar's confidence in what he sees is shaken; he cannot believe his eyes.

On the other hand, the following is the

EXPERIENCE OF HIS EAR:

1. S ea m 2. St ea k 3. Ea rth 4. H ea rth 5. Br ea d 6. Y ea	One Symbol equal to Six Sounds.
1. Conc ei ve 2. H ei ght 3. V ei n 4. H ei fer	One Symbol equal to Four Sounds.

The child is told six different ways of sounding one mark. He cannot believe his ears.

But the eyes and ears of the child are the only channels for his knowledge—the only avenues to learning; and, if these are blocked up, it is difficult for knowledge to get into his mind.

The eye is trifled with, and a multitude of confusing appearances presented to it; and so the attention and memory of the child are weakened from the very outset.

The ear is not kept faith with; the child has to give different sounds to the same symbol; what sound to give is always a question with him; and so his judgment is puzzled.

There is no firm footing in the symbol—that is susceptible of the most various interpretations; there is no reliance on the sound—that varies even with the same symbol, or remains the same with the most contradictory-looking symbols. The child then cannot trust to his senses; these are outraged and disappointed in every way. The teacher must, therefore, train the child's *mind*; he must look to every quarter of the intellectual horizon for what help he can get. He must also train or arrange the *mind of the language*, that is, he must so engineer it as to provide a gentle gradient for the children to walk up.

What the child has to do is not merely to make himself acquainted with 26 symbols of a fixed and permanent value, but with a very large number of self-contradictory habits of a people who were never allowed by circumstances to reach a harmonious develop-

ment, so far as the lettering of their words was concerned. He sees contradictions all around; he sees

CONTRADICTIONS of ENGLISH with NORMAN-FRENCH marking, of NORMAN-FRENCH with LATIN marking, of LATIN with ENGLISH marking, and of all with themselves and with each other.

In the two chief notations there are

CONTRADICTIONS OF

SOUND, EAR	with	SYMBOL, EYE
SYMBOL, EYE	with	SOUND, EAR.

The philological explanation of all this is, as has been said, that the English language is a vast conglomerate or pudding-stone made up of several distinct and different home-dialects, as well as of Norman-French and Latin elements. It consequently possesses all, or parts of all, the notations of all these dialects and languages. And the error perpetually made in our primary schools is that the child is taught all these systems at the same time—as if they were all of one class, without the slightest sense that he is asked to do something that would be extremely difficult for a grown up man. He has to learn to recognise with promptitude and immediateness from two to five different systems of notation, mixed with fragments from others!

(To be continued.)

BURNS AND LONGFELLOW.

The following characteristic tribute to the peasant-poet of Scotland is from the pen of the greatest poet America has yet produced—the late H. W. Longfellow. It was first published a short time ago in the Edinburgh *Scotsman*:—

I see amid the fields of Ayr
A ploughman, who in foul or fair
Sings at his task,
So clear, we know not if it is
The laverock's song we hear or his,
Nor care to ask.

For him the ploughing of those fields
A more ethereal harvest yields
Than sheaves of grain;
Songs flush with purple bloom the rye,
The plover's call, the curlew's cry
Sing in his brain.

Touched by his hand, the wayside weed
Becomes a flower; the lowliest reed
Beside the stream
Is clothed with beauty; gorse and grass
And heather where his footsteps pass
The brighter seem.

He sings of love whose flame illumes
The darkness of lone cottage rooms;
He feels the force,
The treacherous undertone and stress
Of wayward passions, and no less
The keen remorse.

At moments wrestling with his fate,
His voice is harsh, but not with hate;
The brushwood hung
Above the tavern door lets fall
Its bitter leaf, its drop of gall
Upon his tongue.

But still the burden of his song
Is love of right, disdain of wrong;
Its master chords
Are Manhood, Freedom, Brotherhood;
Its discords, but an interlude
Between the words.

And then to die so young, and leave
Unfinished what he might achieve!
Yet better sure
Is this than wandering up and down,
An old man in a country town,
Infirm and poor.

For now he haunts his native land
As an immortal youth; his hand
Guides every plow;
He sits beside each ingle nook;
His voice is in each rushing brook,
Each rustling bough.

His presence haunts this room to-night—
A form of mingled mist and light—
From that far coast.
Welcome beneath this roof of mine,
Welcome! this vacant chair is thine,
Dear guest and ghost?

Promotion Examinations.

The attendance at the public schools being irregular, it is not easy to determine the average time a pupil requires to pass from one class to another. Industry and intelligence are also factors that must be taken into consideration. Generally speaking, there are only a few stupid children in any school; the teacher, who worries over these and tries to make them keep pace with their more industrious and intelligent class-mates, makes a mistake and does a great injustice to all his pupils. It is well to arrange school work so that the moderately clever pupil can easily overtake the lessons given for preparation. By this plan, the brilliant—always the exception—will have hardly enough. Still they need not be idle, as the teacher can without loss of time assign something out of the usual course of study for their improvement, for which they need not be marked on the class-register.

Admitting that the attendance is fair and that the pupils are of average ability, experience justifies the statement that two years is the maximum time that a pupil should occupy in passing from one class to the next higher. Let us put this into a practical shape and see what it means: A child starts to school when its seventh year is completed; at nine he is through the first class; at eleven, through the second; at thirteen, through the third; at fifteen he is through the fourth, or has passed the entrance to a high school. This rate of progress leaves three years in which to prepare for matriculation or a teacher's certificate before the eighteenth year is completed. On paper such a result appears satisfactory, and, if practically carried out, there are few parents who could justly complain.

But it is not uncommon to find pupils promoted simply to avoid the dissatisfaction arising from parents and guardians on account of their being "too long," as they say, "in one book." Yielding to this pressure works irreparable mischief to both teacher and pupil: to the former, by pointing out a method by which he may appear to be doing his duty when he is not; to the latter, by an introduction to work for which he is not prepared. Of course, when the highest class is reached, this must stop. A conscientious teacher who succeeds one guilty of such a practice, finds seas of trouble in store for him, in fact, it may take him years to gain the reputation of his less deserving predecessor. It it is hardly necessary to urge that classification by merit is a necessity, and, that the industrious teacher can, with a little skill, overtake the work and have parents under-

stand the importance of thorough preparation before proceeding to the next class. Every teacher may reasonably be expected—unless the circumstances are exceptional—to advance to the next class all the pupils of his school in two years.

Any lesson well given presupposes three conditions: a thorough knowledge of the mental state of the pupils, a complete grasp of the substance of what is to be taught, and a good method of teaching or presenting it to the class. Short of this, progress must necessarily be slow and precarious, but if these conditions are daily fulfilled, the teacher will from a short experience learn what he can accomplish in a week or a month, and be able to set his examination questions at the beginning as easily as at the close of either period. Most teachers question orally while giving a lesson, to test whether or not a communciation is being effected, and to guide them in the rate at which they should proceed. But it would be a mistake to rely on this test alone. While it does for the lesson under consideration, it takes no direct notice of what has been previously taught, hence the importance of regular examinations to ascertain the retentive power of the pupils and the effectiveness of the teaching.

A month's work, seems by general consent, to afford a field large enough for an examination. On this the majority of the questions should be based, the rest being from work done before the commencement of the month in question. It is thus seen how naturally a division of the programme suggests itself, but it must not be inferred that the same division would do for all schools; for this to be possible, teachers and pupils would require to be almost alike and we know they are not. Every teacher must make his own division. An interchange of questions among teachers is highly desirable, and frequently takes place where there is a healthy interest taken in the schools. The monthly questions should cover the whole ground, and be of such a character that an average pupil could almost answer the whole paper. It would be well for every pupil to have a copy of the questions, either written by himself from the dictation of the teacher or prepared by the teacher. Ample time is necessary in order that justice may be done to slow pupils; better give too much time for answering than too little. The results should be carefully read by the teacher and all the mistakes noted and fully discussed for the benefit of the class that made them. In fact it is a good exercise to have the same questions, after discussion, given for a home or a desk exercise. "Working the old questions" is a motto of much importance, which cannot be discarded without injury to the school. When all the answers are read, the results should be tabulated and placed in a conspicuous part of the school. If reports are sent to parents, the marks obtained in each subject are an essential part of them. Teachers generally keep copies of monthly questions; these indicate the extent of the month's teaching and should never be thrown aside as useless. From them may be gained the clue to a division of the programme into parts sufficient to occupy definite periods of time.

QUESTIONS FOR PROMOTION.

BRAMPTON PROMOTION EXAMINATION.

DECEMBER, 1882.

READING.

CLASS I. TO II.

Page 58—"Henry Bell's mamma————run away and leave them." Value—100.

II. TO III.

1. Page 223—"Poor Whittington————for Dick's benefit."
2. Page 106—"A rose's brief————Would I had lov'd him more." Value—50.

III. TO IV.

Page 256—"Fine Ear" to bottom of page.
Value—50.

WRITING.

CLASS I. TO II.

Page 70—The last stanza of "A Child's Verse."
Value—50.

II. TO III.

Page 66—"My day or night————Although a poor blind boy.
Value—50.

III. TO IV.

Page 113—The first three stanzas of "The Mouse's Petition."
Value—30.

SPELLING AND DICTATION.

CLASS I. TO II.

(*Three marks off for each error.*)

1. "Jack's hat flew off, and all his friends tease him."
"Where to climb the fence."
"Fred Hughes found a grey-bird's nest in the beech tree."
"All must hate a lying tongue."
"Great God to Thee I bend my knee."
"They saw him sprawl on the ice."
"Two dogs went to drive off the bull."
"If Keep could break loose, he would seize any one.
"Nor dare abuse the things which God has written here."
"Mr. Carp cut the pear into two halves."

2. Squirrel, ceiling, guide, whelm, yield, deign, good-bye, rogues sleigh, thieves.
Values:—1, 70; 2, 30. Total—100.

CLASS II. TO III.

(*Four marks off for each error.*)

1. "Regardless of the passers-by."
"The hosier agreed to challenge the Indian."
"Matronly cows were offended at the unusual salute."
"Major Fitz-warren addressed the loyal company."
"Dangers were incurred through ignorance in steering."
"The pilot's pistol alarmed the roguish elfin."
"Jenny Wren danced daintily and sang prettily."
"To desolate and mar in a moment's reckless folly."
"Matilda's meddlesome tricks did mighty mischief."
"Darwin's dog, Argus, moaned dreadfully."

2. Demurred, complaisance, descendants, wriggle, caressing fatigue, prophecy, guidance, courtesyed, ingenious."
Value:—1, 70; 2, 30. Total—100.

CLASS III. TO IV.

(*Four marks off for each error.*)

1. "Will you pare my pear?"
"Gazed with inexpressible pleasure."
"I see vultures, harpies, and ravens."
"Dissipated part of the mist."
"Mirza," said he "I have heard thee in thy soliloquies."
"East, for one-and-sixpence, purchased a leather paper case."
"His cherub-boy he kissed."
"Unintelligible to a foreigner."
"Tied inextricably together."
"Scene of a tragedy of more recent occurrence."

2. Pumpkin-pies, personable, ignominious, tragical, reprieved, cutlass, calibre, missiles, halliards, superciliously, coffee, digestion, shrouds, nauseous, sovereignties, epitaph, prebendary, respite, wheresoe'er, apparel.
Value:—1, 40; 2, 60. Total—100.

ARITHMETIC.

CLASS I. TO II.

(Full work—slates.)

1. Write in words 1090, 2703, 4260, 7009, 10140; write in figures nine hundred and ten; two thousand and twenty-six; six thousand seven hundred and one; and write in Roman Numerals 987, 1682.
2. Find the difference between 48692327986 and 50784301673.
3. 768—415+16821—2746—256+2756—327.
4. John and James played marbles; when they began, John had 55, and James 45; the first game John lost 5, the second he lost 7, the third he lost 8, the fourth he won 4, the fifth he won 2, the sixth he lost 4. How many marbles had each when they quit playing?
5. Write down "9 times" of the multiplication table.
6. A lady bought 4 hats at $6 each; 7 pairs of boots at $5 a pair; 2 pairs of gloves at $2 a pair; how much did all cost?
7. A man bought a house for $4900, a farm for $8560. He sold both for $16740; how much did he gain?
8. A boy bought 4 lead pencils at 5 cents each; one pair of skates at 175 cents; a book at 50 cents; a slate for 15 cents. He gave the store-keeper $4; how much change should he get?
9. 98673+10370634+97+964732+98+84944849+9.
10. From 7630005 take 3270006.

Values:—10 each. Total—100.

CLASS II. TO III.

(Full work—paper.)

1. Define Abstract Number, Concrete Number, Subtrahend, Dividend, Product.
2. Write in figures:—One thousand, one hundred and one; fourteen thousand and fifteen; eight hundred and nine. Write in Roman Numerals:—999, 1010, 8748, thirty-five. Write in words:—25700, 7070, 11911, and 10061.
3. Multiply 784365 by 38706 and divide the product by nineteen thousand, three hundred and fifty-three.
4. What number must be subtracted from 3050 to get a remainder exactly divisible by 55?
5. How many lbs. are there in a barrel of beef? a barrel of flour? a bushel of oats? a bushel of wheat? a bushel of Indian Corn?
6. For how much must I sell 50 barrels of pork per lb., which cost me $8 per barrel, so as to gain $100 on the whole?
7. Divide $50 between Willie and Tom, giving Willie $3 as often as Tom gets $2.
8. Find the value of $24\times32\times36\times144\div(8\times108\times64)$.
9. What change should I get out of a $10 bill, after paying for 8 lbs. rice at 6 cents per lb.; 4 lbs. currants at 8 cents per lb.; 5 lbs. sugar at 11 cents per lb.; and 6 lbs. tea at 65 cents per lb.?
10. I sold one half of a farm for $3525 at $75 an acre. Find the number of acres in the farm.

Values:—10 each. Total—100.

CLASS III. TO IV.

1. Define Unit, Number, Factor, Prime Number, and Composite Number; and give an example of each.
2. Define Reduction.—Reduce
   (*a*) 3296879 inches to miles.
   (*b*) 3 thousands, 2 tens, to units.
3. 109 ac. 3 ro. 13 per. is divided among 4 boys and 3 girls, so that each boy gets twice as much as each girl. Find how much do all the boys together get.
4. Find the least number that can be divided by 6, 9, 12, 15 and 21 respectively, with a remainder equal to their highest common factor.
5. How much is $\frac{59}{160}$ of an acre? Give answer in roods and perches.
6. How much carpet 2 ft. 6 in. wide will it take to cover the floor of a room 27 ft. 10 in. long and 8 yards wide?
7. Write down the tables of linear and square measure, and show how the number of square yards in a square pole may be deduced from the number of yards in a linear pole.
8. Find the sum, difference, product, and quotient of $3\frac{7}{8}$ and $2\frac{1}{3}$.
9. Divide 33772 lbs. 10 oz. 18 dwt. 15 grs. by 5463.
10. A clerk earns 50\frac{1}{2}$ per month. He paid 19\frac{3}{4}$ for board, 3\frac{7}{8}$ for washing, 16\frac{5}{8}$ for other expenses; how much does he save per month?

Values:—10 each. Total—100.

GEOGRAPHY.

CLASS II. TO III.

1. Define shore, volcano, cape, island, peninsula, swamp, isthmus, lake, and mouth and source of a river.
2. Name one river emptying into each of the following bodies of water:—Arctic Ocean; Atlantic Ocean; Pacific Ocean; Hudson Bay; and Gulf of Mexico.
3. What direction are the following from Brampton:—Toronto, Milton, Malton, Streetsville, and Forks-of-the-Credit.
4. Name 3 mountain ranges, 8 capes, 6 islands, 4 peninsulas, and 8 lakes in North America.
5. What railroads pass through the county of Peel; mention one town or village on each.
6. Explain your reasons for beliving that the earth is round.

Values:—1, 10; 2, 5; 3, 5; 4, 10; 5, 10; 6, 10. Total—50.

CLASS III. TO IV.

1. Define Estuary, Inlet, Comet, Isthmus, Latitude.
2. What and where are May, Chesapeake, Horn, Galt, Belleville, Montreal, Brandon, Canso, Chatham, Emerson, Nepigon.
3. On what bodies of water are the following respectively situated:—Winnipeg, Kingston, Owen Sound, Quebec, Goderich, Belleville, Rio de Janeiro, Lima, Barrie, Brantford?
4. Where are the following products found in Ontario:—Salt, Copper, Silver, Petroleum, Timber?
5. Name two towns on each of the following railways:—Grand Trunk; Credit Valley; Northern; Canada Southern; Toronto, Grey, and Bruce.
6. Name the principal lakes and rivers draining into the St. Lawrence.
7. Name and locate the principal bays and gulfs of the Maritime Provinces and Ontario.

Values:—1, 5; 2, 11; 3, 10; 4, 8; 5, 10; 6, 10; 7, 21. Total—75.

LITERATURE.

CLASS II. TO III.

Open Second Reader at page 39, and write answers to the following:—

1. Who was the mother of Joseph and Benjamin?
2. What is meant by "jealous?" Why were Joseph's brothers jealous of him?
3. What is the difference between "herd" and "heard?"
4. What are "Shepherds?" "Merchants?"
5. What was the name of the king of Egypt at this time?
6. Give meanings of—"famine," "stories," "sacks," "hostage," "flocks," "wealth."
7. Tell anything else you know about the life of Joseph.

Value:—1, 6; 2, 6; 3, 6; 4, 6; 5, 5; 6, 12; 7, 9. Total—50.

CLASS III. TO IV.

Third Book opened at page 256—"Beth Gelert."

1. Give the meanings of "brach," "peerless," "chaos," "portal seat," "gouts of gore," "frantic," "The blood-stained cover rent," "suppliant," "rue," "sculpture," "heir," "hilt."
2. Who were "Beth Gelert," "Llewellyn?" Why is Gelert called "The flower of all his race?" In what way did he resemble a "lamb?" a "lion?" Where is "Snowdon?"
3. Tell why the sorrow described in this lesson was so great. What does "horn" mean in this lesson?
4. Write from memory five stanzas of "The Wreck of the Hesperus."

Values:—1, 20; 2, 15; 3, 5; 4, 10. Total—50.

GRAMMAR.

CLASS III. TO IV.

1. Divide into noun part and verb part:—
   (*a*) Six of the Toronto men were there.
   (*b*) Willie, do you know your lesson?
   (*c*) The papers in the safe and desk were scattered about.
   (*d*) Come at once to see me.
2. Compose sentences containing respectively:—An abstract noun, a pronominal adjective, a phrase, a noun in apposition, a relative pronoun.
3. Parse—"The mother gave in tears and pain the flower she loved best."
4. Define Antecedent, Voice, Abstract Noun, Collective Noun.

5. Decline—Man, lady, poet. Write the poss. plural of money, chimney, axis, brooch, salmon; the feminines of lord, boy, duke, Sir, hero, Czar, nephew; and the objective case of who and he.

6. Correct the following, giving reason:—

(*a*) She sings nice.

(*b*) Will I divide the apples between the three boys?

(*c*) The teacher asked my sisters and I if the horse trotted good.

(*d*) Sir Garnet Wolsley will be the thirteenth conmander whom Her Majesty will have made peers.

7. Write out the inflection of present tense subjunctive of the verb "to gain."

Values:—1, 16; 2, 10; 3, 24; 4, 10; 5, 21; 6, 15; 7, 6. Total —102

COMPOSITION.

CLASS III. TO IV.

1. Write six sentences on:—"What boys and girls should be."

2. Write sentences containing the following words properly used: ring, wring, grown, groan, style, stile, course, coarse, browse, brows,

3. Exemplify, in sentences, each of the parts of speech.

Values:—1, 18; 2, 24; 3, 8. Total 50.

CANADIAN HISTORY.

CLASS III. TO IV.

1. What two colonies were founded in the Northern part of the New World? Mention the persons connected with their discovery and colonization.

2. Mention the circumstances connected with the following dates:—1497, 1713, 1763, 1837, 1774.

3. Name the tribes of Indians which Cartier formed in America; describe the territory held by each.

4. Write a short account of:—Champlain, Montcalm, U. E. Loyalists.

5. What is a "Bill?" An "Act of Parliament?" When is Parliament said to be "Adjourned?" "Prorogued?" "Dissolved?"

Values:—1, 12; 2, 10; 3, 8; 4, 10, 5, 10. Total—50.

EAST MIDDLESEX PROMOTION EXAMINATION.

NOVEMBER, 1882.

SPELLING.

CLASS II. TO III.

Value, 87 marks; for every error in spelling, 3 off; in capitals and apostrophes, 2 off; in punctuation, 1 off. Dictate the punctuation marks.

1. "And where may you be going so early?" he asked.

2. "Oh, I'm going to grandma's," said Red Riding-Hood; for she thought there was no harm in being civil.

3. That with the world, myself, and Thee,
I, ere I sleep, at peace may be.

4. The sheep's "Bleat! bleat!" came over the road.

5. Who taught the busy bee to fly?

6. Bertha ran to the sewing-room for her mother's scissors.

7. Then she tied a thread round her dolly's waist.

8. Faust ceased howling, and redoubled his efforts to keep himself afloat.

9. "What are you going to do at Mrs. McKay's?" inquired several impatient members of the party.

10. This is the deliberate opinion of a gray-headed old man.

11. The kite was carried up on the breeze as lightly as a feather.

12. My dear children, I wish to teach you the value of perseverance.

CLASS III. TO IV.

Mark as for 2nd to 3rd Class.

1. Peter Bernard, never put off until to-morrow what you can do to-day.

2. A treasure surpassing Australian ore.

3. And never let thine heart be shut against the wretch's cries.
For here forlorn and sad I sit within the wiry grate.

4. He merely straightened himself up for a moment, and then busily proceeded with his occupation.

5. Then off we hie to search the balm in its odorous cell.

6. "Why so severe?" the cub replies;
"Our senate always held me wise."

7. The effects are very different from those of a blow from a tiger's talons.

8. The young pedestrian was trudging on steadily.

9. Sly Reynard surveyed them with gluttonous eyes,
And made, spite of morals, a pullet his prize.

10. When the colony of Pennsylvania was pressed for provisions during a time of scarcity, the Indians came to its assistance.

11. Poor Diggs took a good deal of notice of East and Tom.

12. Hurrah! hurrah for Canada,
Her woods and valleys green.

[The Dictation at the last H. S. E. Ex. was: Fourth Reader, page 159, lines 9 to 14; page 213, last stanza; and the following selected words: precipice, buttress, seized, seditions, consummate, prodigious, trophies, sanguinary, miscellaneous, allegiance, volunteering, scurrilous. Eleven errors cancelled the total value (22)]

COMPOSITION.

CLASS II. TO III.

Write a composition about yourself. Tell your name, how old you are, and how long you have been attending school. Write at least three complete sentences; make a period at the end of each sentence. Value—20.

CLASS III. TO IV.

1. Give the reason for each of the nine capitals in the two following sentences:—

Forgive me, Lord, for Thy dear Son,
The ill that I this day have done.

The farmer was heard to say, "We must depend on ourselves, John."

2. Write a sentence using an interrogation mark, another using an apostrophe and a period, and a third using a comma and a period.

3. Suppose there is going to be a public examination at your school. Write an invitation to attend it to a young friend residing in another school section. About six lines.

4. Write a short composition on "Good Manners." Tell why we should try to cultivate and practise good manners. Describe how we should address our elders, parents, teachers, etc. Describe good manners in the play-ground, at the table, and in church.

In examining consider (1) originality; (2) correctness of statement; (3) completeness of sentences, (4) general arrangement; (5) absence of verbal repetition; (6) punctuation and capitals; (7) spelling; (8) syntax; (9) penmanship; (10) general neatness.

Values:—1, 18; 2, 9; 3, 25; 4, 30. Total—82.

ARITHMETIC.

CLASS II. TO III.

1. Write in words 102,030; 5,600; 1,000,004. Write in figures three numbers: 10 thousand, 9 hundred and ten; 3 millions, 701 thousand and 12; ninety thousand, 8 hundred and twenty-five.

2. Add	(*a*) 2976385697	and	(*b*) 5079;
	8385896754		6839;
	9999999999		28:
(*Six marks each.*)	875368281		48689757:
	7891234567		269;
	3456789123		87468;
	8763867168		25839856.

3. Subtract 78,987 from 500,000; then, 78,987 from the remainder, and keep on subtracting 78,987 in like manner until you have exactly 105,065 left.

4. Multiply 29003805 by 620080 and divide the product by 3.

5. How often is 197 contained in 12 millions?

6. Divide 201,011 by 132 using the factors 11 and 12 by short division, and prove your answer by multiplying without factors.

7. (*a*) What number is greater by 43 than 17 times nineteen? (*b*) What number is less by 19 than 43 times seventeen?

8. (*a*) How much can 9 boys earn in 13 days at 65 cents a day? (*b*) Tom had one hundred and ten marbles; he lent 14 to W and 17 to R; then he bought 27 from H and gave twelve for a lead pencil; R paid him back all but 9, and he lost 5. How many had he when he went home?

9. Mary sold 25 dozen eggs at 19 cents a dozen, and 17 lbs. of butter at 25 cents a lb. She bought 36 yards of calico at 14 cents a yard. How much money had she left?

Value 12 marks each. Count 100 a full paper.

CLASS III. TO IV.

1. Take the sum of all the odd numbers *between* 8,768 and 8,790 from the sum of all the even numbers between 15,623 and 15,611, divide the difference by 315 using factors two of which are 5 and 7.

2. (*a*) In 17 tons, 11 cwt., and 48 oz., how many lbs.?
(*b*) In 2,520 yds., 0 ft., 0 in., how many miles?

3. (*a*) In 7,879,654 weeks, how many days? how many hours?
(*b*) In 8 gallons, 96 quarts 64 pints, how many gallons?

4. (*a*) How many square yards would be left after 2 sq. ft., 6 sq. in., is cut off 761 sq. rods?
(*b*) How many cubic feet of cord-wood (4 ft. long) are left of a cord after a pile 4 ft. high, and 2 ft. 6 in. wide is burned?

5. Make the bill of the following transaction: Mrs Alden bought of Messrs. Cayton & Co.

5 lbs. 4 oz. lard @ 12 cts. per lb.
3 pks. of potatoes @ 45 cts. per bushel.
1 quart of vinegar @ 60 cts. per gallon.
3 ducks @ 50 cts. per pair.
16 herrings @ 25 cts. per dozen.

6. The blocks of land in London Township are one and one-half miles long, and seven furlongs wide. How many steps of 2 ft. 6 in. would a person have to take in walking around one block?

7. The old Winchester bushel of wheat weighs about 60 lbs. and contains 2,150 cubic inches. How many such bushels in a bin of clean wheat 4 ft. wide, 5 ft. high and 10 ft. long? The Imperial bushel contains 2,218 cubic inches.

8. A man has a hall $25\frac{1}{2}$ ft. long to cover with oil-cloth. 12 feet in length of the hall is 9 feet wide and the rest is 6 feet wide. He has one offer at 10c. per square foot and another at $87\frac{1}{2}$c. per square yard. How much cheaper is the second offer?

9. (*a*) A boy has to divide two millions by 136, 157, 210, 343, and 504, using factors. There is one particular factor that is in every one of them. What is it? Put the work of finding the factor on the paper. (*b*) Find the smallest exact dividend of the first three divisors, (136, 157, and 210).

10. Find the sum of $7\frac{1}{2}$, $\frac{2}{3}$ of $\frac{27}{8}$, $\frac{1}{6}$, $\frac{5}{18}$, $2\frac{1}{5}$ of $\frac{17}{22}$, $289\frac{1}{10}$.

Value, 12 *marks each.*

GEOGRAPHY.

CLASS III. TO IV.

1. What name is given to the people of this country? What is the name of their language? What (in one word) is their religion?

2. Name four important products (exports) of this country.

3. What is a boundary line? Give an example of a mountain range that separates two countries, and of a river that separates countries.

4. Bound the township, town, or village in which you live.

5. What is an imaginary line? Give the names of the three imaginary lines. What part of the boundary of this Dominion is an imaginary line?

6. Define: Isthmus, basin or valley of a river, sea, falls, tides, eruption of a volcano, equator, earth's axis, latitude.

7. In what direction from the school is London City, Toronto, Sarnia, Ottawa, and Winnipeg? Name a railroad that runs through each.

8. Draw a map, marking the counties of Ontario on the River St. Clair, Lake St. Clair, and River Detroit.

9. Draw a map of about twenty miles of any railroad in this county, marking township and stations.

10. What and where are: Niagara, Saskatchewan, Vancouver, Fundy, Florida, New Orleans, Chili, Old London, and Blanc?

Values:—1, 6; 2, 6; 3, 6; 4, 6; 5, 6; 6, 18; 7, 10; 8, 12; 9, 6; 10, 18. Total—94.

GRAMMAR.

CLASS III. TO IV.

1. Analyze as fully as you can:

Francis, a farmer's son, took care of his father's cows in the forest.
Each of them had a bell tied round her neck.
One day a man passing through the forest said to Francis, "What a beautiful bell!"
Is the master at home?
Come in quickly my worthy fellow! my good fellow! Five pounds was offered to whoever found a bag containing £100.
I'll give it to you for the £5.
Now, here is Francis.
What have you to say.

(*Four marks each for full analysis, three for correctly dividing into subject and predicate.*)

2. Parse: Poor Francis went home, his eyes swollen with crying, "Ah!" said he,"

3. Quick, quickness, quickly. Write three simple sentences containing each of these words. Tell what part of speech each is and state the reason.

4. Select a suitable adjective and give its degrees of comparison. Select a pronoun and give both numbers of its three cases. In the example give the names of degrees, cases etc.

5. Correct and state reason:

They do not attend school very regular.
We have went through reduction twice.
I like going to school pretty good.
Him and I is in the same class.
May we carry the ladys basket?
Six months interest is due.
Which is best—my writing or his?
"Where are you going," says I to him.
I laid down, I was so tired.

(*One mark each for correction; three for reason.*)

6. Which is right to say?

"I will teach you better," or "I will learn you better."
"When will we see you again?" or "When shall we see you again?"
"The jury was locked up," or "The jury were locked up."
"Give me the lend of your pen," or "Give me the loan of your pen."

7. Correct:

lord lorne, governor general of the dominion of canada.

Total 140 *marks. Count* 120 *a full paper.*

Values:—1, 36; 2, 36; 3, 12; 4, 7; 5, 36; 6, 8; 7, 3. Total—138.

Practical Department.

HOW CAN WHISPERING BE PREVENTED.*

Hardly a class or a lesson passes by but the teacher has occasion to complain more or less of whispering, which interrupts the instruction, if it does not render it fruitless. What can be done? In order to give a satisfactory answer it is necessary to find out (1) who whispers, and (2) what is the reason. If whispering is constant and general during school-hours, the teacher is to blame. If only a few whisper, they are the so-called chatter-boxes who cannot refrain during lessons from sharing their thoughts and observations with their neighbors.

Every class has some scholars who cannot keep from chattering, whose tongues are never quiet, who very soon tire of any teaching, and who then yield to their own thoughts and communciate their notions to other children. They are thoughtless and playful. Commands and censure are of but momentary service, because they are used too often and are not commensurate with the cause. Each fault should have its peculiar remedy. Poor writers have to make copies, and poor scholars have extra lessons to learn; chatter-boxes who disturb the recitation and the class must be isolated in order to be made harmless. They should be shown to a separate place, seated on the end of a bench, or on the bench directly in front of the teacher's desk, so that they shall have no opportunity for whispering.

If whispering prevails in the whole class, or in certain recitations, the teacher's method is not suitable. He goes on too slowly or too quickly, speaks monotonously or too rapidly, is too wordy or expresses himself in phrases which the children do not understand. Then he should direct his attention to himself and correct the faults in his method of teaching.

*Translated from the German of Friedrich Körner by Marion Talbot, A.M., for the New England *Journal of Education.*

Whispering in general is caused by a lack of interest on the part of children, and by their need of activity and occupation. Idleness is the source of all vices. Accordingly the teacher should know (1) how to awaken interest, and (2) how to occupy the children and make them participate in the instruction.

Not all subjects of teaching are capable of being made particularly interesting. This is not the task of instruction, but properly comes within the province of method. In order to put life into instruction the teacher should be clear and intelligible in his statements, keep going forward, explain how the lesson can be applied, and call attention to the difficulties it presents, which yet are to be overcome.

The teacher must not teach too much nor too long at a time, but must examine the pupil in what he can find out, infer, and conclude by himself. In these questions the subject should be grasped from all sides, beginning from the end and going backward, breaking into the middle and so on, in order to show what goes before and what must result. At the end of the week there should be a review of what has been done during the week. The same should be done at the end of the month and term ; in one case the teacher should pay attention to details, and in another be satisfied with a summary and make comparisons. In this way the lessons constantly assume a new aspect, and offer new points of view, and the pupils are obliged to reproduce them independently according to different perspectives.

In order to encourage this independence, the teacher, should cease explaining at the point where the pupil can draw the conclusion for himself. Or the teacher can point out the aim, and ask what means are suitable for reaching it ; or what has been learned can be applied in similar cases. In this way the pupil shares to a certain extent in demonstrating the lesson ; the result is evidently his work, and this excites his ambition and interest and impels him to an activity which leaves no time for whispering.

The teacher should avoid questioning the pupils in regular order, but should skip about so that no one will be sure but that he may be called upon suddenly. Nor should he stop too long with one pupil, lest the others become tired. If the one who is questioned cannot answer, the teacher should ask another to help him out, and the first one should then be made to repeat the correct answer. Between whiles the other pupils should be asked why the answer was right or wrong. In brief let every question be directed to all, and then no one is sure but that it is meant for him. It is injudicious to call the pupil by name before answering the question. The question should be asked before the scholar is called upon for the answer. All must be prepared in this way to give the answer. It is well, after an answer is made, to ask another scholar whether it was right, and for what reason. If a scholar has something to write on the board. the others should meantime be examined on what he has to do. How shall he begin? What shall he do now? What mistake has he made? Why? What has he left out? etc. If the the questions are put here and there, to this one and that one, whispering is stopped. If a chatterer is discovered, he must be made to repeat what has been said, and be more frequently questioned than the others.

If the scholars have to read from a reading book, the teacher must not keep his eyes fixed on his book, but glance about frequently so as to keep the class constantly under his eye. He must know what is in the book, and be able to tell from what is read where the place is. If a pupil looks up from his book and sees that the teacher is looking, not on his book but on the class, he knows he is watched. His glance meets that of the teacher. If the teacher moves about the room and calls, "John isn't looking at his book," the class knows that they are carefully watched, and stop talking. If, during the lesson, the teacher notices that one or another scholar is talking with his neighbor, he should suddenly stop. The whole class is startled as well as the chatterer, who should be asked whether he is ready to let the recitation go on. If these measures are of no avail, the whisperer should be shown to a separate place, as has been said, and be made to stand in such a position that the class shall be behind him, and that he can make no signs or grimaces. In order that he may not be altogether tired out, he should be allowed, after ten or twenty minutes, to sit down close to the teacher's desk. He must be a very hard case if these measures will not lead him to stop making trouble.

The entire cure for whispering rests simply in the inquiry "When and for what reason do the scholars whisper?" They are tired, either because they feel no interest in the lesson or because they lack employment and active participation in the work. If these causes are removed the necessary results will not be manifested.

In visiting schools one often notices that the teachers pay special attention to a few scholars,—usually the best,—while the others find the time hanging heavily, and know in advance that they will not be watched. Accordingly they look about for some way to make the time pass,—and talk, play, and plan all kinds of mischief.

THE TEACHER AT HOME.

Let us talk of the teacher in her home, or rather in the boarding-place. For it is sadly true that the great majority of our teachers are compelled to board. It is also sadly true that, with rare exceptions, boarding-places are not true resting-places. Often a room without a fire compels the teacher to share the general sitting-room with the family, and happy is that teacher whose nerves are so sound that she can endure the day's demands upon them without craving a quite evening for recuperation. There are teachers who can lock their school-room doors five minutes after the session, and give no further thought to school and its duties until they arrive next morning, just in time to ring the bell. It is barely possible that these gifted geniuses can do as faithful work as those who spend hours of patient thought and study outside the regular session. We will give them the benefit of a doubt ; but most teachers need to give some study to their work, out of school-hours.

Every teacher ought to have a place, however small, where she can have at least one hour of perfect quite every evening. Nothing rests the tired nerves so much. Just in proportion to the energy with which the teacher throws herself into her work ought she to rest. You do not realize, young teacher, now in the bright flush of womanhood, with pulses bounding with health and strength, that this constant nervous activity is quietly sapping the foundations of life. You are prodigal of your strength. Perhaps at thirty-five you will find that the nerve-power God intended should last you to three-score-and-ten is already wasted. Then, with nerves strung to the pitch of agony, you may be called to lay aside your work, to resign the pleasures of independence, and to linger out an existence fraught with pain and sorrow. Do not be guilty of such criminal carelessness and self-neglect. Insist, from the very first, on a room to yourself, comfortably warm in winter. Your salary is so small you can't afford it? Undoubtedly that is true, but *it pays* here to be what seems extravagant. Keep your health sound, and you may work for years ; ruin it, and you will soon become a burden instead of a help to others.

Sleep is God's best gift to school-teachers. Sleep as much as possible. Let your head be on your pillow at half-past nine every night, and keep it there just as long as the family breakfast-hour will permit. Try it for one year, and see how much easier the government of your school becomes, when you come to it fresh from

a long night's sleep. The world never looks so dreary, nor life so hard, as when tired nerves are struggling with its burdens.

When you get tired and discouraged over your school, eat a hearty supper, take a brisk walk, a warm bath, and go to bed. A nourishing meal and a good night's sleep are often the measure of the difference between hope and despair.

"But if I retire early I cannot sleep." Try it by following the plan continuously for one year. You cannot expect to overcome habits of long standing in a week. See that bed and bedding are properly aired daily. Have your beds out of doors in the sunshine frequently, and you will surprise yourself by falling asleep in good season. A large part of sleeplessness is due to improper habits in regard to the care of sleeping-rooms. The poisonous exhalations from the body, absorbed by bedding during the night, are not dissipated by an airing while the occupant of the room is at breakfast. Retained, they become an active excitant to the nerves.

If the teacher retire early, it necessarily follows that she cannot give much time to social duties, nor should she. Resign Friday evening to social enjoyment, and take comfort in throwing off all care. Spend a part of your vacations in social pleasures. And here let me suggest the wisdom of going entirely away from home and friends for a longer or shorter time, as your purse will allow.

Save your five-cent pieces during the year, and take a week at Nantucket in August; go to some seaside resort, where you will combine the salt breezes with some society. Go where there are no school-teachers, if you can, and do not speak of school while away. There is a time when teachers should meet teachers, and by the interchange of thought, gain inspiration for their work; but, to save herself from becoming stereotyped, the teacher should have contact with people of other interests.

If the trip with board to pay is impossible, visit some friend in the country. Rake hay, weed the flower-garden, go rowing,—do anything that will keep you out of doors and develop *muscle*. Teachers unfortunately do not have time for sufficient muscular work, to counterbalance the demand upon brain and nerves. Twenty minutes' exercise with bean-bags in the open air, after a hearty meal will enable you to work with a clear head the rest of the evening. Be out-of-doors as much as possible. In the pleasant summer weather, take your work out-of-doors, if you must work. Let the sunshine tan your cheek and steal away the lines of care left by the winter's work. Let the wine of the October air get into your blood, and give tone and vigor to the system.

Another desirable means of rest for the teacher is to be found in fiction of the right sort. When you return from school tired out and perhaps discouraged, take up an interesting book and read until tea-time. The suspension of your anxiety for a time is rest in itself; and often the interest aroused by the story invigorates the whole action of the mind. But let the fiction be of that instructive yet entertaining character that will elevate while pleasing. Such works as Eber's "Uarda," "Egyptian Princess," "The Sisters," "Burgomaster's Wife," and "The Emperor," or George Eliot's "Romola," are worth a small library of histories from which a tired teacher turns with weariness and too often with a pang of conscience that she cannot make herself "want" to read them.

When the evening's study is over, if you cannot take a short walk to turn the current of your thoughts, take twenty minutes of self-forgetfulness in your story, and sleep will come sooner and be sweeter than if the transition from work to the pillow be made at once.

The reading of history and kindred subjects should be done earlier in the day; and a careful economy of spare minutes will give you half an hour daily for solid reading. Let this be suggested by the story you have read; then it will be full of life and interest. For instance: read Dickens' "Tale of Two Cities," and let yourself thrill with sympathy for the poor down-trodden people of France, whose sufferings just before the breaking out of the French Revolution are therein so vividly depicted. When the emotion aroused by the story is somewhat calmed, you will desire to obtain a just view of the Revolution from the standpoint of royalty, and also from that of the educated middle-class, which was so important a factor in the Revolution. A good life of Marie Antoinette will give the one, and a life of Madame Roland the other. By the time these are read you will desire to know what force reunited the discordant elements of French society. Read Lanfrey's "Napoleon." Carlyle's "French Revolution" will then be enjoyable, and you will have gained a knowledge, not only of this great period of history but also of the way to become interested in history.

—*Ida M. Gardner, in the Primary Teacher.*

BEAUTIFUL MANUSCRIPT.

One of the things which every conscientious teacher and examiner should require of those for whose education he is responsible, is a beautiful manuscript in examination. It should show a very great amount of good taste, besides attainments in the particular branch under consideration.

Mere answers to questions arranged with no respect to order should not satisfy him who hopes for refinement in the members of his classes, and who does not want to be classed among those who teach narrowly.

But many are content with any sort of manuscript from which may be gleaned answers to make up the much desired per centage. They seem to overlook the fact that an examination in any of the usual branches is one of the very best drills in language, and that where care must be exercised by the examined it is worth many times such a lesson as mere parsing.

The teacher who aims at, and succeeds in attaining breadth of instruction, will see that the pupil's manuscript in examination shows the practice of all he has learned of those subjects which he is at that time called upon to use, to-wit: the use of capitals, spelling, penmanship, punctuation, drawing, and even "gentle manners."

The manuscript and the letter are species of composition, and the pride of every cultivated teacher should lead him to see that the very simple rules of that exercise which are employed in them, and which are certainly not above the understanding of quite young manuscript-makers, be observed.

The following are two sets of hints which my pupils are expected to observe in a written examination. The first are for such a subject as history; the second for a mathematical branch.

I.

1. Set down the numbers of the answers whether you put down the answers or not.
2. Begin each proper name and each sentence complete in itself with a capital letter.
3. Close each sentence complete in itself with a period.
4. Use black ink, and write plainly.
5. Separate the names in a group by commas.
6. Omit a line between any two answers.
7. Do not crumple your manuscript.
8. Spell correctly; if you are in doubt as to the spelling of a word go to the dictionary.
9. The answers you give must suggest what the question might be.

II.

1. Be sure you know the meaning of a problem before you proceed to the solution of it.
2. Do not use too much time on a problem that you cannot for some time solve; attend to others and afterwards return to it.

3. Be careful to add, subtract, multiply, divide, and to use the decimal point accurately.
4. Use the dot in all abbreviations and style every important number by a proper term or phrase.
5. Make out solutions on the slate or separate slips to be copied in order.
6. Make beautiful figures and with the pen.
7. Separate your solutions by lines parallel to the ends and sides of your paper.
8. Have a certain place for answers.
9. Mark the leading parts of solutions I, II, III, etc.
10. Verify your answers.
11. Make your solutions appear as if copied from a book.
12. If you write on both sides of the paper, turn it "end for end" when you have completed the first page.

These hints will plainly serve in an examination of teachers.

If applicants for teachers' certificates were to be graded on neatness of their manuscripts, how many would fail who now succeed?

W. H. in *Ohio Educational Monthly.*

Notes and News.

ONTARIO.

Mr. Butler, public school inspector for Elgin, in his annual report has some sensible remarks on infant teaching. He contends that the work of teaching very young pupils is as important as that of any higher grade, that the conductors of infant classes should receive as large salaries as the best paid teachers, and that special certificates should be issued for those who wish to engage in this department of school work. The requirements, besides the ordinary English subjects, should be a knowledge of kindergarten methods, expertness in object lesson teaching, good elocution, proficiency in mental arithmetic, a knowledge of the science of common things, and an intimate acquaintance with the laws of health. Mr. Butler coincides with all intelligent educationists in condemning the policy of handing over young pupils to the care of unskilled, inexperienced, and inept teachers.

A well deserved tribute was paid a few days ago to Mr. J. H. McFaul, inspector of city schools, and head master of the county model school, St. Catherines. At the close of the professional examination of the model school, he was invited to meet the students in the central school, where he was presented by the teachers-in-training, thirty in number, with a valuable gold-headed ebony cane, elaborately engraved, and a handsomely framed photo group of the students accompained with an address. In addition to the teachers-in-training, there were present Messrs. Grey, Seath, Moir, and Moyer of the institute. Mr. McFaul made a suitable reply, after which Mr. Grey briefly addressed the candidates. The model students were invited to meet at Mr. McFaul's residence at eight o'clock, where a most enjoyable evening was spent.

The changes for 1883 in the staff of the Cobourg collegiate institute are as follows:—E. Odlum, B.A., classical master, has accepted the head-mastership of Pembroke H. S. To be succeeded by Mr. E. C. Fluyck, Hon. undergraduate, fourth year, Victoria university, and at one time assisstant master in Campbellford H.S. R. Ferguson, B.A., first English master, has been appointed to the second mastership in Owen Sound H.S., and will be succeeded by Mr. Chas. James, a distinguished honor undergraduate, fourth year, Victoria, and for a time assistant master in Napanee H.S. W. Hough, B.A., preparatory department, takes an assistant mastership in Strathroy H.S., and will be succeeded by Mr. E. M. Popham, a fourth year man, Victoria.

At a late meeting of the St. Thomas school board a communication was received from the Education Department, containing an extract from the report of Mr. Hodgson, high school inspector, on the state of the collegiate institute. He visited the school on the 13th of October last, and found the accommodation highly satisfactory, the equipment excellent, specialists employed in the upper rooms, and the work taken up in departments. He found a very pleasing feeling pervading the school, and the discipline not only good but seemingly maintained without special effort on the part of the teachers. The contemplated appointment of a mathematical master, of high university standing, will render the staff unusually efficient. Evidently Mr. Millar, the principal, deserves the vote of thanks tendered him by the board for his efficient services during the year.

Since the re-organization of the University of Toronto on its present basis in 1853 the degrees conferred have numbered in all seven hundred and eighty-nine, analyzed as follows:—LL D., five; LL.B., thirty-one; M.D., fourteen; M. B., forty-seven; M.A., two hundred and twenty-five; B.A., four hundred and sixty-seven.

In St. Thomas, Mr. John W. Cook, ex-mathematical master of the collegiate institute, is a candidate for the position of school trustee in one of the wards. Mr. Cook having "been there" ought to be able to sympathise with the teachers if he succeeds in being elected.

A very unpleasant occurrence took place recently in the Kingston medical school. During one of the lectures the lady students in attendance rose and left the room in a body, on account of the manner in which a certain remark made by the lecturer was received by the male members of the class. The latter declare that they did not indulge in any of the alleged cheering until after the ladies had taken their departure. It is difficult to get at the real facts of the case, owing to the conflicting statements of the students of both sexes and of the professor whose remark does not appear to have been in itself an improper one. The male students resolved to end the matter by requiring the non-admission of students of the other sex, and threatening to leave in a body as the alternative. Matters have been compromised by allowing the female students to complete the present session, and by giving a pledge that no more shall be admitted in future. If it is desirable to have lady practitioners, it is surely desirable that they should have a thoroughly scientific training.

E. Odlum, B.A., of Cobourg collegiate institute, is to be head master of Pembroke high school for 1883; his assistant is Mr. Cabut, B.A., of Toronto. In the public school Mr. W. Alford is re-engaged at an advance of $50; in the separate school, Mr. Purtil is selected as head master.

At the last two meetings of the senate of the University of Toronto some matters of more than ordinary importance came up before that body. One of these is the question of allowing an option at the local examinations for women between Scott's "Marmion" on the one hand and Goldsmith's "Traveller" and Burke's "Reflections" on the other. The question was raised by a memorial from the Richmond Hill high school board, and as the senate has the matter under consideration it would be well for other localities interested to bestir themselves with a view to securing a very important concession. As these examinations are not competitive there should be no great difficulty in the way. The question of abolishing the residence in connection with university college has been raised by a notice of motion, but no action is yet reported. About 100 of the students in attendance at the college have sent in a memorial praying for the retention of scholarships, against which may be set off a previous memorial by double the number praying that the money thus spent might be devoted to some more generally useful purpose. The question of throwing open the meetings of the senate to the press was also raised on a notice of motion. Nothing that the senate could do would be more popular or more productive of benefit to the institution. The senate has taken the action necessary for the establishment of fellowships—nine in number—in connection with the work of university college. This is a novel experiment in Canada and time alone can tell how it will succeed. The fellows will be graduates who intend to pursue some post-graduate course and who will, in consideration of the $500 a year be required to do some tutorial work. The writing of theses in the examination hall for the degreee of M.A. and M.D. was ordered to be discontinued. The following is the list of examiners for 1883:—*Law*—B. B. Osler, LL.B, Q.C.; Z. A. Lash, Q.C., late deputy minister of justice. *Medicine*—Physiology and pathology, Geo. Wilkins, M.D. (professor Bishop's college medical faculty, Montreal); medicine and therapeutics—F. H. Eccles, M. D., (medical faculty Western university, London); midwifery and forensic medicine—D. B. Fraser, M. B.; anatomy—M. H. Aikins, B.A., M.B., (professor anatomy Toronto school of medicine); surgery and surgical anatomy—F. G. M. Grasett, M.B., (medical jurisprudence Trinity school); clinical medicine and clinical surgery—E. O'Rielly, M.D., (supt. Toronto general hospital); hygiene and medical psychology—C. W. Covernton, M.D., (professor sanitary science Trinity medical school, member board of health. *Medicine and Arts.*—Chemistry—W. H. Ellis, M.A.. M.B., professor of chemistry, school of science. Biology—H. Montgomery, M.A., B. Sc., (Toronto school of medicine.) *Arts*—Classics—A. Johnson, B.A., LL.B.; W. Dale, M.A.; J. Fletcher, M.A. Mathematics—E. Frisby, M.A.; T. W. Wright, M.A.; W. J. Loudon, B.A. English and

history—E. B. Brown, B.A.; D. R. Keys. B.A. Metaphysics and ethics—Rev. J. W. A. Stewart, B.A.; J. G. Schurman, M.A., Rev. J. R. Teefy, M.A. French—J. L. McDougall, M.A. German—Rev. E. Schluter, M.A. Italian—D. R. Keys, B.A. Mineralogy and geology—J. B. McMurrich, B.A., (professor of botany, Agricultural college, Guelph). Oriental languages—J. C. Dunlop. Meteorology—C. Carpmael, M.A.

Mr. J. J. Tilley recently visited and inspected the Renfrew county model school, which is under the direction of Mr. E. A. Stevens. The examination was a thorough one and the remarks of the inspector show that he was agreeably surprised at the condition of the institution. Mr. Stevens has commenced a good movement by gathering into a bible class on Sundays a number of young men who were not members of any other class. Teaching the text of the sacred scriptures is one of the most instructive and ennobling of occupations, and teachers would do well to follow so good an example. They would soon find the benefit of it in a decided increase in the moral influence they are in a position to exert.

NOVA SCOTIA.

R. McKay, B.A. (Queen's, 1881) has resigned the professorship of English in Pictou Academy, and is pursuing a post graduate course at his *Alma Mater* in Kingston. His place at Pictou has been filled by the appointment of Mr. Wm. R. Fraser (Dalhousie, 1882). Mr. Fraser obtained a Provincial Grade A license in July last. Pictou Academy was never more prosperous than at present.

The following changes in the principalships of county academies took place at the beginning of the current year: Mr. E. J. Torey (Dalhousie, 1882) was transferred from Baddeck, where he was succeeded by Mr. Geo. Patterson (Dalhousie, 1882) to Guysboro, where he followed Mr. J. R. Ruggles (Mount Allison, 1882). The principalship at Sydney, vacated by the acceptance (previously noted) of the position of Principal of the Truro Model Schools by Mr. B. McKittrick, has been assumed by Mr. Hector McInnis (Provincial Grade A, 1882). Mr. Alex. McRae, after many years' service at Digby, has removed to Annapolis, and has been succeeded at Digby by Mr. W. H. Magee (Provincial Grade A, 1882). Mr. A. Cameron, for many years principal of the central school, Yarmouth, is now principal of the Yarmouth county academy.

It is reported that, on account of ill-health, D. H. Smith, A.M., is about resigning the inspectorship of district No. 9. As the district comprises within its limits such institutions as the Provincial Normal School and the Pictou Academy, besides many of the best graded schools of the Province, the appointment of his successor is a matter of considerable importance.

MANITOBA.

At a recent meeting of the Protestant section of the Board of Education the following were appointed a standing committee to examine and classify pupils of collegiate departments, viz.: the Superintendent of Education (convener), Rev. Professor Hart, Rev. Canon O'Meara, and Mr. J. H. Stewart. At the same meeting the Superintendent introduced some important changes in the programme of examination for teachers. Hereafter, certificates will be divided into professional and non-professional. Professional certificates in all three classes will imply a Normal School training, and in the case of first class certificates, a year of successful teaching. Professional second class certificates will be valid during the pleasure of the Board. Professional certificates in Grade A of the third class will be valid for four years from the date of issue. Non-professional certificates in the first class will be valid for two years, all others for one year.

The new programmes of study—one for use in the cities and towns, and the other for the rural schools of the Province—which have been used for the past few months provisionally, and which were thoroughly discussed and adopted at the last meeting of the Provincial Teachers' Association, have been finally adopted.

The Ven. Archdeacon Pinkham, superintendent of education, has been urging upon the people of Regina, North-West Territories (in the archdeaconry of Manitoba) the importance of organizing a public school as soon as possible. His Honor Lieut.-Governor Dewdney has promised a grant from the North-West Council towards its support.

At the last meeting of the Council of the University of Manitoba T. A. Bernier, Esq., Roman Catholic superintendent of education, was unanimously re-elected Registrar of the University for the ensuing year. The Council has memorialized the Dominion Government for a grant of land for the purposes of the University.

The census returns of Protestant children between the ages of five and fifteen years in Winnipeg, and a few other places, are as follows:—Winnipeg, 2623; attending school, 1686. Brandon, 314; attending school; 169. Portage la Prairie, 518; attending school, 402. Emerson, 210; attending school, 153. The total school population in the organized school districts of the Province is about 10,000 (ten thousand).

At a recent meeting of the board of Protestant school trustees, Winnipeg, the following scale of salaries was adopted:

MALE TEACHERS' SALARIES.

	1st year.	2nd year.	3rd year.
Standard IX and X	$1,100	$1,150	$1,200
" VIII	1,000	1,050	1,100
" VII	1,000	1,050	1,100
" VI	900	950	1,000
" V	900	950	1,000
" IV	800	850	900

LADY TEACHERS' SALARIES.

	1st year.	2nd year.	3rd year.
Standard VII	$700	*	*
" VI	600	650	675
" V	550	600	650
" IV	525	575	625
" III	500	550	600
" II	500	525	550
" I	500	525	550

* No teacher at present.

FOREIGN.

Michigan University, Ann Arbor, has 182 female students who attend lectures along with the male students.

THE HARVARD ANNEX:—The third annual report of the "Society for the Collegiate Instruction of Women," at Cambridge, Massachusetts, better known as the Harvard Annex, recites the fact that the institution has been incorporated during the year, and says it is now in a position to receive endowments and bequests, and these it hopes to receive in the near future. It says that a fund one-tenth the size of that represented by the property and endowment of Harvard University contributed to the "annex" will give women greater privileges than are within their reach in America, and will make them permanent. For the past year the classes for women number twenty eight in all, and the departments are Greek, Latin, English, German, French Italian, fine arts, history, mathematics, physics, and botany. Besides these classes the students generally attend the open lectures and readings in the university. Instruction was offered by thirty- nine instructors of Harvard College, and the actual classes received the services of five professors, seven assistant professors, and eleven instructors. These repeated to the women the instruction given to the students of the college in the different departments. Of the students, eight were in their third year, eighteen in their second year, and twelve in the first. Ten were pursuing a course of study covering four years, and corresponding to that pursued by the candidates for the degree of bachelor of arts in Harvard College. The others were taking from one to four special courses of study each. The report adds that the health of the students has been good.

Hon. Edwin Willits, who is now serving his third term as a member of the U. S. Congress, has just been elected principal of the State Normal School at Ypsilanti, Mich. He is a lawyer by profession.

A DUCAL SCHOOLMASTER:—The late Duke of Galliera, of Italy, possessed a fortune of 300 million francs, and an only son. During his father's lifetime the heir declared his intention of renouncing the world. Instead of following the example of the kings and nobles of earlier ages when they were seized with this passion, and retiring into a cloister, this young man, at the age of twenty, crossed into the territory of Nice, and applied for a situation as a village schoolmaster. His father regarded it as a mere freak, and sent his son every year a sum of 350,000 francs. The young man accepted it, but refused to spend it upon himself, sending the whole to Paris, with the request that it should be expended anonymously upon the poor of the French capital, while he himself existed entirely upon the income which he earned as a schoolmaster. The secret of the origin and riches of the village pedagogue could not be kept, and after he had been at work for three years the French Minister of Education sent him a nomination as "Officier de l'Academie." Meanwhile the father died, and the eccentric schoolmaster had become the Duke of Galliera, and the rightful possessor of enormous riches. He determined, however, to adhere to his vow of renunciation. He wrote a polite letter to the French Minister, declining the offer which had been made him, saying that his three years'

service was too mean to be compensated with such dignity. The young Duke is still contentedly teaching the children of the peasants in his Nice village, and never interferes with his mother, regarding himself as dead to the world in which he once lived. It is now reported that she has given the income to the Pope.

Herr Von Gossler, Prussian minister of education, has issued a circular ordering that all the boys in the higher schools of the country shall be made to play games. For some time public opinion in Germany has been much exercised about the physical condition of the boys; they were good scholars but listless, inactive, unenterprising, often appallingly short-sighted. A remedy is to be sought not only in gymnastics, but in cricket and football and other outdoor games requiring skill and agility.

Victoria University, Manchester, founded and incorporated in 1880, and consequently the youngest university in Great Britain, held the first meeting for conferring degrees Nov, 1. The degrees which it is empowered to confer are Bachelor of Arts and Master of Science, together with a degree of Doctor, viz, Doctor of Literature, of Philosophy, or of Science. Professor Roscoe moved that a petition be presented to Her Majasty in council to grant a supplemental charter to the Victoria University empowering the University to grant degrees of medicine and surgery. The motion was adopted.

The Cleveland *Herald* thus advocates the cause of co-education: —"It is strange that educators can still persist in closing the doors of our great institutions of learning against young women who really wish to attain the highest possible scholarship. The knowledge that the day is inevitably coming when co-education of the sexes shall be an almost universal reality, seems to have the singular effect of confirming some men in this unprogressive course. In general the objection to the system proposed amounts to a prejudice against anything which threatens interference with the present order of things; in short, against any innovation. And thus it happens that most frequently the men who object to co-education are those who have never thoroughly investigated its workings. They seldom descend to an examination of the facts in the light of figures, and the chief weapons with which they answer the champions of co-education are contempt and good-natured ridicule."

At the recent meeting of the Maine Pedagogical Society the sentiment of the members seemed to be opposed to the marking system in schools. Principal Rounds of Farmington, declared that much of the marking is sheer nonsense, besides being a great burden to good teachers. He added that he had given up trying to find out a pupil's knowledge by searching examinations. He held brief examinations at unexpected times. Recitations, he added, cannot be judged so minutely as by tenths without interfering with the instruction. He thought that conduct should be taken into account in marking, because teachers undertake to do something more in teaching than merely to make scholars—they strive to mould character. W. J. Corthell, of Gorham normal school, would, he said, give more for the judgment of the teacher at the close of the term than for any system of marking; would promote scholars upon the individual opinion of their teachers that they were able to do the work of the higher grade. Marking, he thought, an unhealthy stimulant.

Since the modest beginning thirteen years ago of Girton College—the woman's college at Cambridge—it has twice been found necessary to make considerable extensions. The students have proved themselves eager to profit by the advantages afforded to them, as was shown by their distinctions obtained at Cambridge this year. It is now once more intended to develop the work of the college by making further and more elaborate extensions. For some time past a number of applicants have been refused admission owing to the want of space, and plans have at last been adopted which will make room for 23 more students, bringing up the number to 78.

An Oxford correspondent says that out of the 338 resident members of Convocation 200 are college officials, and 170 of them are engaged in teaching on behalf of the colleges as distinct both from private teachers and from university teachers. The number of undergraduates on the books is 2,800, and the colleges thus provide already one teacher to every sixteen or seventeen students. In 1864, when Mr. Matthew Arnold made his report, the thirty-four German universities had 2,031 professors and readers against 18,971 matriculated students, or one to every nine or ten, and the proportion does not appear to have been reduced since that time. Two years ago, for instance, the official returns for Prussia showed 995 teachers against 9,663 students.

The classical departments at Oxford still continue to attract the largest number of able men, being hard run, however, by the mathematical school. Natural science comes next, then theology, then history, and last of all law, in which only one first-class was obtained during the year.

The Parliament of Norway recently passed a law, which the King has signed, giving women the privilege of attending the universities and applying for degrees in all the arts and sciences; but the right to hold office in the service of the State and of participating in the competitive examination for such positions are not yet accorded to them.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

OTTAWA.—The regular half-yearly meeting of the Ottawa Teachers' Association was held in the Normal School, Ottawa, on Friday and Saturday, 1st and 2nd December. The meeting was called to order at 9 a.m., Friday, by the president, Mr. John Munro. The first subject taken up was "Probable Changes in the School Work," by Mr. L. Harstone, B.A. Among the changes referred to as both probable and desirable may be mentioned: shortening of the school hours; abolition of home-work for all excepting advanced pupils, and reducing it to a minimum even in such cases; a better system of physical education; and the making of our education more of a literary character. In the discussion which followed Mr. Harstone's address many of the members expressed themselves as in favor of the shortening of the school hours of study, and giving more attention to physical training, but on the subject of home-work there was a diversity of opinion, some maintaining that a fair amount of work for home preparation should always be given and that the majority of those who had excelled in any particular line of study have been home-workers. Miss A. MacLardy introduced a class of little girls from the fourth division of the girls' model school and taught a lesson in geography—the principal gulfs and bays of North America. By means of pictures and an outline map, all sketched upon the blackboard, the teacher presented the subject in a very interesting manner, and upon the conclusion of the lesson Miss MacLardy was highly complimented by several members of the association. *Afternoon Session.*—Mr. D. E. Sheppard delivered an able address on the subject of "English in Schools." In his opening remarks the speaker pointed out the necessity of beginning the study of English at an early age, and the importance of the teacher being able to speak grammatically with ease. Special attention was paid to the memorizing of poetical selections as a means of giving pupils a vocabulary of choice words and phrases. It was shown that the grand object of the teacher should be to create in the minds of his pupils a fondness for poetry and substantial reading, and as the chief instrument by which this end may be accomplished is the reading lesson, it is therefore desirable that our school readers should contain choice selections from standard authors. The next subject taken up was "Reading," by J. A. MacCabe, M.A., principal of the Ottawa Normal School. In the course of his very interesting address the lecturer spoke of the great importance of reading, classing the ability to read well as one of the fine arts, ranking with painting, sculpture, music, &c. Respecting the teaching of reading in our schools it was shown that the text-books in use at the present time are not suitable for the purpose of practising reading, many of the selections being of little or no value for such exercise. The difficulty might be met, however, by not taking the lessons consecutively, but by making a proper selection. The three qualities of good reading were given thus: 1st, distinctness; 2nd, distinctness; 3rd, distinctness, and it was pointed out that to read with expressive effect due regard must be had to time and expression. The speaker illustrated various points, noticed in his address, by reading selections from "Mark Anthony's Address to the Roman Citizens," "Tell's Address to the Mountains," Collins' "Ode to the Passions," and "Jugurtha in Prison." SECOND DAY.—Mr. D. McArdle introduced the subject of "Co-Education of the Sexes." He divided the subject under the following heads: 1st, economical view; 2nd, intellectual view; 3rd, social and moral view. Under the first head he pointed out that unless the sexes were educated together a much larger expenditure of money would be necessary. Under the second head he met the objection that the intellectual qualities of the sexes were so different that separation was indispensable. He then referred to the extent to which co-education was carried on in the United States in which 90% of the colleges and universities, and 60% of the high schools adhere to the principle and bear witness to the beneficial effects resulting from it. Referring then to the normal schools and Canadian universities he pointed out the tendency in all of these, and then passed on to the social and moral aspect of the question. Here he pointed out that the school life should

be an extension of the home life, that it should be a world in miniature, and showed that the principle of separation was contrary to nature. He concluded by proclaiming that separation was injurious from the standpoint of political economy, from the intellectual, and also from the social and moral aspect of the question. *Afternoon Session.*—Mr. C. Campbell took up the subject of "Reduction," and illustrated, by examples solved on the blackboard his method of teaching this subject. He recommended a thorough drill in notation from the fact that it is so closely connected with reduction, and considered the tables given in our text-book more extensive than are required for practical use. He would prefer thorough familiarity on the part of the pupils with a few practical tables to an imperfect knowledge of all. He believed in making the subject a thoroughly practical one. The pupils should always be permitted, as far as possible, to handle and compare the weights and measures mentioned in the tables used. Mr. E. D. Parlow, delegate to the Ontario teachers' association, presented his report which, upon motion, was received and adopted. The following officers were elected for the ensuing year: president, Mr. E. D. Parlow; vice-president, Mr. R. J. Tanner; secretary-treasurer, Mr. J. T. Bowerman; executive committee, Misses Forgie and MacLardy, and Messrs. Glashan, Payne, and McNevin; auditors, Messrs. Sheppard and Harstone. The auditors' report was received and adopted. After disposing of some formal business the association adjourned to meet again at the call of the executive committee.

Renfrew Co.—The teachers' association for the county of Renfrew was opened in the model school, Renfrew, at eleven o'clock, on Nov. 16th by R. A. Barron, B.A., the vice-president; the president, Mr. McKillop, of Pembroke, being absent. Mr. Campbell, principal of the Arnprior public school, then read the minutes of last May's meeting held at Pembroke, which were accepted. Sixteen teachers were present at the opening; but the number finally increased to sixty-seven. The meeting was adjourned till two o'clock, when Dr. McLellan, senior inspector of high schools, gave a long and highly instructive lecture on Elocution and Pronunciation. In the evening when Dr. McLellan was to lecture on "Parents and Teachers in relation to Schools." Gravelle's Hall was crowded with the members of the association and the residents of the village. Mr. Jas. Craig, chairman of the board of education, was called to the chair. It had been intended to present the Wright medal at the close of the Dr.'s lecture; but at the last moment it was decided to proceed with that part of the evening's work first. The chairman therefore called upon Mr. Wright to take the platform. In the course of his remarks he said that the teachers' salaries had been somewhat increased this year and deservedly so. Referring to Mr Barron's capabilities in French, he said that not only were thirty pupils in the high school studying that language, but twenty from the model school were taking advantage of the chance of special instruction. Noticing the activity in this branch, he had spoken to Mr. James Carswell on the subject, and the latter had generously come to the fore, and after this year would give a silver medal to the pupil of the Renfrew high school taking the highest number of marks in French at the intermediate examination. Mr. Alex. Barnet had also been generous enough to give a silver medal or $10 in cash, as the winner might choose, to the pupil making the most marks in some branch (which particular one Mr. Barnet had not yet decided upon.) And, better still, he thought he could promise that at the next meeting of the teachers' association held in Renfrew he would be able to announce that a gold medal would be awarded to the first pupil of the Renfrew high school taking a first-class certificate. In aspiring to see the Renfrew high school at the "top of the tree," he said that it lay in the people's hands to place it there; and instanced the high school at Farmersville, a small inland village without railroad or water communciation, but where the people took an interest in and were proud of their high school, paid first class salaries to the teachers, passed a large number of pupils at the intermediate examination, and made money out of their school into the bargain. There was no reason why Renfrew should not have just as good a school; it needed only that the people should interest themselves in it; he wanted them to look upon it and speak of it as "our" school; and he hoped yet to see it a collegiate institute. Mr. Wright then called upon Mr. McDowell to bring forward his pupil Miss Maggie O'Gorman, to receive the medal for making the greatest number of marks in all the subjects at the last intermediate examination, which she had so deservedly won. After the presentation, Miss O'Gorman and Messrs McDowell and Wright retired to the body of the hall, amidst the loud and continued applause of the audience. Dr. McLellan, before commencing his lecture, extended his congratulations to Miss O'Gorman; and informed the audience that it was no mean matter to take 700 marks at an intermediate, as she had done. Referring to Mr Wright's remarks he mentioned the fact that in the last few years the education of each child had been reduced from over $5.00 to $1.48 and said that he was sorry that such was the case, as it meant over-work and under-pay for the teachers. At the conclusion of the lecture, which was attentively listened to and well received by the audience, Mr. F. F. McNab, of the Arnprior high school, moved, and Mr. A. A. Wright seconded, a vote of thanks to the lecturer. Friday's session was opened by Mr. Stevens, principal of the model school. His method of teaching the first steps in grammar, by showing the relation existing between objects and words, and of taking up mood, were highly spoken of by the teachers. Dr. McLellan then proceeded to lecture on the "A. B. C. of Arithmetic." After an intermission, during which a club of subscribers for the Canada School Journal was organized, Mr. Barron read his paper on "Teachers and their work." Dr. McLellan began the afternoon session with his lecture on "Good Questioning." Mr. Barclay, of Arnprior, followed with a paper on "English," dealing chiefly with the common and most noticeable defects in spoken and written English, with a little attention to the absurdity of many of the modern newspaper idioms; winding up with some humorous advice in the matter of pronunciation. After a vote of thanks to Mr. Barclay, the meeting considered the matter of the place of the next meeting, and it was decided to hold it at Arnprior.

Prescott.—The following account of the last meeting of the teachers' association of this county has been sent to us for publication:—

Vankleek Hill, Nov. 27., 1882.

Not having seen in the Canada School Journal, an account of the very successful teachers' convention held in the Vankleek Hill model school building, on the 28th and 29th of Sept. last, I take the liberty of sending you for publication a short resume of its proceedings. There was present a full attendance of the teachers of the county. Their conduct during the convention proved that they had come to learn something. Friday was spent in giving lessons in the principal subjects on the public school programme. These lessons were given to the children of the school who were present for the purpose, by the following gentlemen: Mr. Snmmerby, inspector of Prescott and Russel; Mr. Marshall, head master of the model school; and Mr. C. R. Grey, first assistant. To the many inexperienced teachers present this part of the convention's work was perhaps the most valuable. On Thursday evening Dr. McLellan lectured in the Presbyterian church on the subject "Parent and Teacher in Relation to the School." A good synopsis of this lecture would fill the Journal therefore I shall not attempt to give it. Dr McLellan spoke over two hours and was listened to with the closest attention from the first word to the last. A Vankleek Hill audience is hard to please, but this one was pleased. "This lecture will give teachers a higher estimate of their work." "This is the best lecture we have ever had on the Hill." "This is the grandest thing we have had since Punshon's lecture on "Daniel in Babylon," were some of the remarks the writer heard made with regard to the Doctor's effort. On Friday Dr. McLellan lectured on the "A. B. C. of arithmetic," the "Art of Questioning," and "Reading." To have the opportunity of being present at any one of the Doctor's lectures is well worth the two days spent at a convention, at least, such is my opinion and such was likewise the judgment of the other teachers of Prescott at their last convention. The "A. B. C. of Arithmetic" should work a complete revolution in the county in the usual method of teaching arithmetic to beginners. Previous to this many had only read about proceeding from the known to the unknown in teaching the subject, but during this lecture they saw it done so clearly as to convince them that it is the easiest and best way of teaching the most difficult of the three "R's." The peculiarity which distinguishes the method unfolded in "The A. B. C. of Arithmetic" from similar methods, is the careful grouping of the units or other objects used. For instance a child learns to recognise a group of *two* units and a group of *three* units,—these placed together form a group of *five* units. This group the child soon learns and when placed with the previously known group of three, learns that five and three are eight and so on. But I shall not lengthen this article as my object is not to attempt to reproduce the work done before the teachers at our last convention but to express on their behalf not only their entire satisfaction with what was done, but their liveliest gratitude to Dr. McLellan whose presence at the convention made it a success.

One of the teachers of Prescott Co.

GOOD ADVICE CORNER.

TAKE THE TROUBLE—

To always speak to every one you know, unless you have reason to believe they do not care to have you do so.

To keep from marring anybody's enjoyment by expressing your own lack of interest, or bad feeling.

To try to enjoy everything as much as is possible: thereby you may make some one else have a good time.

To treat elderly people with especial thoughtfulness and respect.

To show anybody a kindness, even if it is a small one and you have to go out of your way to do it.

To think of others before yourself.

To explain anything that is not understood, whether it be in commonplace conversation, or a misunderstanding.

To keep from speaking ill of any one.

To credit others with good intentions, until you are convinced of their having the opposite; and, finally,

Take the trouble to speak the truth, and nothing else.

—*Scholar's Companion.*

REVIEWS.

The CONTEMPORARY REVIEW keeps up its reputation for excellence. One of the most important political problems just now for the world, as well as for England, is the relation of the latter to Egypt. This is discussed in an admirable spirit, and with great intelligence, in a lecture which forms the first paper in the December number of the *Review*. The lecturer is John Westlake, Q.C., and his scheme for the settlement of the Egyptian question may be summed up as comprehending (1) security for the bondholders who, under existing treaty rights, have advanced money for carrying on the administration; (2) British control in the future management of Egyptian finances; (3) satisfaction to the other European powers by the withdrawal of British troops, and the guarantee of the Egyptian debt; (4) depriving the Porte of the last vestige of control over the country; and (5) allowing the Egyptians, under an independent sovereign and British protection, an opportunity of working out for themselves the problem of self-government. This seems a reasonable programme, especially when to it is added the contention that the present exemption from taxation enjoyed by Europeans in Egypt should cease, and that all Europeans, instead of being left under consular jurisdiction only, should be made subject to the regular courts. In close connection with this premonition of the separation of Egypt from Turkey should be read Principal Fairbairn's paper on "The Primitive Polity of Islam," in which the conclusion of the whole matter is thus stated: "The Sultan of Turkey may indulge in Panislamic dreams, but he will never realise them. The world of Islam is too deeply divided about him to be unified and vivified by him. His Caliphate is to the sections most radically opposed, alike to those most loyal to the prophet and to those most loyal to the people, to the men who most love the Holy Book, and the men who most love the Holy Land, a deep offence, and an act of the worst usurpation." If this is a correct description of the Sultan's relation to Mohammedanism, then indeed may the "sick man's" days be regarded as numbered. The fear of a Mohammedan uprising in India has long brooded like a nightmare over the British foreign office, which may yet find itself in the position of the man who, having fallen over a precipice, and hung for hours by a bush caught in his descent, discovered by letting himself drop that his feet had all the time been nearly touching the ground. An exceedingly suggestive paper is the one on "Impersonality and Evolution in Music," by Mr. Vernon Lee, and another is a short account, by Mr. Phil Robinson, of the present standing and requirements of professional war correspondents.

The frontispiece of the CENTURY MAGAZINE for January is a beautiful full-length portrait of the great natural philosopher, Charles Darwin, and one of the best papers is a finely illustrated one on the "Debt of Science" to him. The *pièce de résistance*, in the shape of an illustrated paper, is "Hydraulic Mining in California." The wild scenery of the mountains and wilder life of the miners, the peculiar character of their appliances for breaking up the rock and washing out the precious metal, and the novelty of the whole subject, make it a good one for the exercise of the illustrative designer's art, and of course the *Century* has made the most of it. Another staple article is entitled "Who are the Creoles"? This question is answered at some length by a description of their local *habitat* in Louisiana, illustrated by engravings, and also by a sketch of their history and their social peculiarities; it is also answered briefly in the statement that the Creoles of Louisiana are "the French-speaking, native, ruling class." The old serials, Mrs. F. H. Burnett's "Through One Administration," and "The Christian League of Connecticut," are continued, and an interesting new one, "The Planting of New England," is begun. The last is profusely illustrated by engravings of old historical landmarks and relics, and the name of the author, Edward Eggleston, is a guarantee of the literary excellence of the letter-press. The other papers, too numerous to be specified, are up to the *Century's* high average.

IN THE ATLANTIC MONTHLY for January that veteran contributor, Oliver Wendell Holmes, discourses pleasantly in "An After-Breakfast Talk" of the inconveniences to which fame subjects authors. From it we quote the following interesting piece of autobiographical chit-chat: "The men of my birth-year are so painfully iudustrious at this very time that one of the same date hardly dares to be idle. I look across the Atlantic, and see Mr. Gladstone, only four months younger than myself, standing erect with Patrick's grievances on one shoulder and Pharaoh's pyramids on the other,—an Atlas whose intervals of repose are paroxysms of learned labor. I listen to Tennyson, another birth of the same year, filling the air with melody long after the singing months of life's summer are over. I come nearer home, and here is my very dear friend and college class-mate, so certain to be in every good movement with voice, or pen, or both, that where two or three are gathered together for useful ends, if James Freeman Clarke is not there, it is because he is busy with a book or a discourse meant for a larger audience. I glance at the placard on the blank wall I am passing, and there I see the colossal head of Barnum, the untiring, inexhaustible, insuperable, ever triumphant and jubilant Barnum, who came to his atmospheric life less than a year after I began breathing the fatal mixture, and still wages Titanic battle with his own past superlatives. How can one dare to sit down inactive with such examples before him?" It is curious in this connexion to notice how large a part of the contents of this number is the work of men who were born before Mr. Holmes. He and Gladstone date back to 1809; Tennyson and Barnum to 1810. But John Greenleaf Whittier, whose poem, "A Summer Pilgrimage," just precedes Mr. Holmes' article, was born in 1807; while Henry Wadsworth Longfellow, born in the same year, posthumously contributes the first part of "Michael Angelo," and Nathaniel Hawthorne born in 1804, and long since dead, furnishes the second part of "The Ancestral Footsteps." Charles Dudley Warner writes an account of "Wagner's Parsifal" as he heard it at Baireuth; there is an interesting instalment of "Studies in the South;" "Chance Days in Oregon" is very readable; and "A Stranger yet at Home" is a capital short story. Reviews, poems, and other matter complete the number.

Announcements

ONTARIO TEACHERS' ASSOCIATION.

PROGRAMME OF THE ANNUAL CONVENTION FOR AUGUST, 1883.

The following subjects will be discussed at the next annual meeting of the Ontario Provincial Teachers' Association:—

1. S hool curriculum.
2. Literature in schools.
3. The advisability of a change in the administration of the school law, by the appointment of a Chief Superintendent of Education, and a Council of Public Instruction, in lieu of a Minister of Education.
4. Licensing of teachers.
5. Moral education.
6. Examinations and examiners.

The subjects for discussion in the public school section are:

1. Text books.
2. Revision of programme.
3. High school entrance examination.
4. Hygiene in public schools.

The subjects to be brought pefore the public school inspectors, and high school sections, as well as the names of the essayists and prelectors, will be announced hereafter.

The great end to be attained in all moral teaching is to lead the child to act from principle, to do a thing because it is right, and avoid doing or saying a certain thing because it is wrong.—*Professor Huxley.*

THE INFALLIBLE TEACHER.—A bright child asks a question that a gray-headed philosopher would be cautious in answering; yet a teacher of limited learning and less sincerity gives a glib reply to keep the child from doubting his scholarship. He wishes the pupil to think that all knowledge worth having has been attained in a few years by one person, namely, himself. Between devotion to text-books and the careless dogmatism of such teachers, children leave our schools with the conceit that they have compassed the universe and settled all the problems of existence.—*Education*

A CITIZEN'S COMPLAINT.—"Now, if the teacher would teach, what a task would be spared to at least one unfortunate father, who, every night, jaded and tired with a hard day's work, gathers his children together and patiently teaches them the interminable lessons that should have been explained at school! What a blessing it would be to many a household if this system could be only reversed, and the children could be taught at school, and there learn their lessons, and recite them at home! But, no! To the the parent is delegated the task of instruction while the teacher has only to hear recitation!

IMPORTANT TO TEACHERS, PARENTS, AND PUPILS.

One of the Greatest Educational Enterprises of the Nineteenth Century!

"A century in advance of anything published in Canada."—REV. GEORGE BLAIR, M.A., Inspector of Schools, Prescott, Ontario.

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AND

PRACTICAL SPELLER.

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Most distinguished Philologists in Great Britain.

They have been carefully and ably edited

FOR CANADIAN SCHOOLS

By some of the Most Eminent Practical Educationists in Canada.

—o—

CONTRIBUTORS.

Contributions for these Readers have been received from the following distinguished *litterateurs*:—

His Excellency the Marquis of Lorne.
Henry Wadsworth Longfellow.
Oliver Wendell Holmes.
John Greenleaf Whittier.
Sir Francis Hincks.
His Grace Archbishop Lynch.
Dr. Dan. Wilson, Pres. Univ. Col., Tor.
Dr. Dawson, Pres. Univ. Magill Coll.
Rev. Dr. Nelles, President of Victoria University.
Rev. Dr. Grant, Pres. Queen's Univ.
Rev. Prof. Bryce, Manitoba College.
Rev. Dr. Dewart, Ed. *Christian Guardian.*
Louis Frechette, Poet Laureate, F. A.

ARTISTS' WORK.

While the finest work of the *best artists in Great Britain and the United States* has been obtained in the preparation of the Readers, we have also had a large portion of the illustrations done by

CANADIAN ARTISTS,

among whom are the following:—

Messrs. Notman & Fraser, Toronto.
Messrs. Hunter & Co., Toronto.
Mr. Sandham, late of Montreal.
Mr. F. M. Bell Smith, Toronto.
Mrs. Schrieber, Toronto.
Toronto Engraving Company.
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Mr. Cruickshank, Toronto.

STILL FURTHER IMPROVEMENT AND LARGER OUTLAY.

The press and leading educators throughout Canada, on the first appearance of these books, were loud in their praise. Induced by this and the flattering reception which they have already met with in the several Provinces of the Dominion, as well as in Newfoundland and the East and West Indies, we resolved, at a greatly increased expenditure of money and trouble, to make them still more worthy of the public favor.

With this object in view we have increased the size of the Second and Fourth Readers, and have inserted a number of lessons specially selected from eminent Canadian *litterateurs* on Canadian subjects. We have also,

At an additional cost of about $5,000, inserted a number of Superb Illustrations

by some of the best artists and engravers in Canada and the United States, the work being done in the best style of the best illustrated magazines of the day. With these improvements we can now fairly claim that in point of artistic and literary excellence these Readers are

The Finest Series ever produced in the English Language.

In order to make them as perfect as possible, some re-arrangement of contents was necessary, but this has not been carried so far as to prevent the new edition from being used in schools and classes with the first edition. Under the circumstances we trust that teachers will cheerfully put up with the slight and temporary inconvenience rendered necessary by the improvement of the books.

MECHANICAL WORK.

To arrive at perfect mechanical work we have purchased THE FINEST PRINTING PRESS ever brought into this country, and the only one of the kind in the Dominion.

Although these Readers have been but a short time before the public they are attaining a world-wide reputation for their excellence.

Gage's Canadian Readers.

INDIA.

From the Toronto "Mail" of August 25th.

It is a matter of some public interest here to learn that Ontario educational influence is felt in other countries. Messrs. W. J. Gage & Co., of this city, have just received a large order for their new series of Canadian Readers, which are to be introduced into theschools of Bermuda. The same firm were a short time ago favored with a similar order from Bombay.

WEST INDIES.

What they say in Bermuda:

The Readers have been in use about a month and I have found them faultless; they are, in every sense of the word, attractive. Pupils take them out at recess and, instead of playing, prefer to read them. No trouble to keep order in school now.—*J. H. Stewart, Crawl, Bermuda, West Indies.*

TESTIMONY FROM THE PROVINCE OF QUEBEC, WHERE THE BOOKS ARE NOW SO LARGELY USED.

WHAT THE INSPECTORS SAY:

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The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

THE BIBLE IN SCHOOLS.

We publish as a closing contribution to the discussion of this topic the following letter from the Rev. John Laing of Dundas:—

Sir,—Accept of thanks for the brief comment on my letter to the *Mail* of December 13, which I find in the January number of the JOURNAL. Perhaps you will allow your readers who may not see the *Mail* to peruse the following statements in regard to your article. You have, I think, succeeded in clearly stating the points at issue:—

1. You say, "it is quite clear that what the (deputation) wanted was to have the Bible placed in the hands of the pupils as an ordinary class-book, and to have the teachers required by law to explain and illustrate its text as they would that of any other text-book." I reply: We wish the Bible used as a class-book; we do not wish teachers to give any explanation beyond what is necessary for the understanding of the text. In other words we wish the children taught to read the book *intelligently*, just as they read the Third Book. This does not imply theological instruction.

2. You say, "This of necessity implies that the teachers must themselves make the Bible a subject of study, and that they must be examined as to their acquaintance with its contents." I reply: (1) Certainly a teacher must study the class-book before he can teach it intelligently; and surely no man would propose that a man or woman that will not study the Bible so far as to be able to teach the pupils should be put by Christian parents in the position of teacher of their children. (2) Examination as to acquaintance with its contents would not be necessary. No teacher is examined on the contents of the Third Book before he is required to teach it. But if a teacher had passed this in a public school in which the Bible was a class-book, he would be acquainted with it just as our teachers are now acquainted with the Third Book, and he would be quite as competent to teach the the former as the latter.

3. As to a change in the law—you are right. We wish the Regulations changed, but not the text of the School Act. I mean by this simply that no legislative action is required to accomplish the change asked for, as both the spirit and letter of the law allow the change to be made without political or parliamentary interposition. Keep our school interests if possible out of the political arena.

4. You ask, "How then (that is, without a penalty being enacted) would any change in the wording of the Regulations promote the use of the Bible in schools?" I reply: 'Possession is nine points in law.' If the use of the Bible were mandatory, it would be used unless there were opposition. As matters now stand it will *not* be used, unless some learned minister or layman (religious cranks they have been called) stir up the community, and create, bad feeling by arousing the animosity of the opposing minority, if there be such. I am convinced that there is not one school section in the province in which a majority would vote the Bible out. Whereas we know that the number of schools in which the Bible is read *by* the pupils as a class-book is very small. Every man knows the difference between getting a disputed thing introduced, and maintaining it when so established.

5. You advise the clergy "to exert themselves a little more in their own localities" I thank you for the advice. Some of us do this; but we are of opinion that the most effectual way in which we can exert ourselves is to ask the Department, not the Legislature, to change the present Regulations—and we venture to prefer our opinion to your advice. Pardon us.

I am much pleased to see that you have given so full an abstract from Mr. McEwan's address, and most heartily do I subscribe to the closing sentiment: "It is not an open question that this Book dominates the literary work of modern life with its moral power, and what we wish to appear in national life must be taught in our schools.

I am, yours truly,

THE MANSE, DUNDAS, JOHN LAING.
Jan. 15. 1883.

We do not see anything in Mr. Laing's reply to our previous remarks to justify us in changing the opinion therein expressed, namely, that whatever may be shown to be the case hereafter, the time has not yet come for a change in the law relating to the use of the Bible in schools. We believe that the more general use of the Bible would be both acceptable to the masses of the people and profitable to the pupils. We believe also that there is no better way of teaching Christian ethics—the noblest system of moral philosophy the world has ever seen—than by the use of certain portions of the sacred text. On the other hand we believe that a steady improvement is taking place in the morality of our schools, and also that the improvement would be more marked and the use of the Bible more general if clergymen would only use the influence in their own localities which the law permits and invites them to exercise.

We agree with Mr. Laing and other ministers of the gospel that it is unreasonable to expect them to teach in the schools. It is not unreasonable, however, to ask them to visit the schools more frequently, and that in their official capacity. In this direction we look for the best solution of the whole difficulty. Let all the clergymen in the Province, of all denominations, unite in the movement to promote the use of the Bible as a text-book, and see what result one year will produce. If there is not a marked and decided improvement then it will be time enough to speak of changing the law—for it must never be forgotten that the Departmental Regulations are as much part of the school law as the text of the Act is. As such they cannot be lightly changed, especially in regard to points where the language of the regulations is the result of careful compromise and has been left unchanged for a generation.

SCHOOL LEGISLATION.

The sudden and lamented illness of the Hon. Adam Crooks at the very opening of the late session of the Ontario Legislature, prevented any amendments from being made to the School Acts. Had he remained in his usual health it was his intention to secure a workable consolidation of a law which is now to some extent a thing of shreds and patches. Since the last consolidation several amendments have been made to the law by Act of Parliament, and it would be a benefit to all who have anything to do with school work to get the text of the Acts consolidated into a single statute.

It is to be hoped that Mr. Crooks' illness is only temporary and that he will be enabled to bring about this much needed improvement in the law, as well as continue to successfully administer it for a long time to come. But it is to be hoped also that when the law is thus simplified in form no more amendments will be allowed of the kind hitherto so common. Every statute is defective in some minor points, but it is frequently better to allow matters to adapt themselves to a defective system than to keep persistently tinkering it. The School Act would not absolutely require amendment for years to come, and those members of the Legislature who are always searching out little defects and introducing bills to remedy them will confer a benefit on the public by turning their attention for a while to other matters.

THE ENGLISH EDUCATION ACT

The readers of the CANADA SCHOOL JOURNAL can rightfully demand to be kept *au courant* with significant educational movements and advances in other lands. In our last number attention was directed to the voluminous and instructive Report of the National Bureau of Education at Washington. Our brief reference by no means exhausted the interest attaching to that important publication, and we propose at an early date to recur to its suggestive statistics for some lessons appropriate to our own educational position. From time to time we have chronicled the developments of popular education in Great Britain, as departmental circulars and parliamentary discussions have placed the means at our disposal.

As tending to show the depth to which the roots of national education have already struck down in the Mother Country, we may properly refer to a somewhat remarkable article contributed to *The Nineteenth Century* for December, by his eminence Cardinal Manning. It does not concern either us or our readers to discuss the main drift of the eloquent Archbishop's essay, which is in a word, to show that voluntary, as well as board schools should share in the rates levied for the support of elementary education. We refer to it in view of the distinct emphasis with which it recognizes the value and substantial permanence of the principles underlying the Education Act of 1870. "'To propose its repeal,' we are told, would be like proposing the repeal of the Gregorian Calendar." ....."The Act of 1870 was necessary. The population had outgrown all existing means of education. The children uneducated counted by hundreds of thousands, perhaps by millions. The standard of education was on a low level. England was behind both Germany and France in the diffusion of intellectual culture, at least among the lower and middle classes of the people." In these few and forcible words the whole story is told. Incidentally, we may refer to them as illustrating that rare power of compression which only the rarest literary genius can command. Further, the learned prelate has studied too deeply the phenomena of European politics and sociology to have any sympathy with Richard Grant White's monstrous dogma, that ignorance is a safeguard and guarantee of virtue:

"Putting away all ecclesiastical questions, it cannot be denied that the state is justified in providing for the education of its people. It has a right to protect itself from the dangers arising from ignorance and vice, which breed crime and turbulence. It has a duty also to protect children from the neglect and sin of parents, and to guard their rights to receive an education which shall fit them for human society and civil life." The subsequent suggested modifications of the rights of the civil power do not affect the validity of the primal principles here so eloquently stated.

The Elementary Education Act has been in force for thirteen years, working its way quietly and effectively, while the external life of the nation has been shaken by the conflicts of diplomacy, by "wars and the rumors of wars" "Its principles," we are told, "have been so long admitted, and have worked themselves so deeply into public opinion and daily practice, that no scheme or proposition at variance with them would be listened to. The condition thus made for us being irreversible, our duty is to work upon it and to work onward from it for the future." The "irreversible condition" is defined minutely in the following admirable summary of the principles of the Education Act:

"1. That education, whether by voluntary schools or by rate schools, shall be universal, and co-extensive with the needs of the whole population.

2. That an education rate shall be levied in all places where the existing schools are not sufficient for the population in number or efficiency, and that such sum shall be administered by a board elected by the rate-payers.

3. That the standard of education shall be raised to meet the needs and gradations of the people.

4. That all schools receiving aid, whether by Government grants or rates, shall be brought under the provisions of the statute law.

5. That all such schools shall be under inspection of the Government, and bound by all minutes and codes of the committee of Privy Council as sanctioned by Parliament.

6. That education shall, under certain conditions and for certain classes, be compulsory."

Candor compels us to express a doubt if "the further extension of these principles" which the Cardinal Archbishop advocates be really feasible. Certainly it is not in accord with the prevailing temper of the English people at this precise epoch.

Mathematical Department.

INTERMEDIATE EXAMINATIONS.—DEC., 1882.

ARITHMETIC.

TIME—THREE HOURS.

1. There is a rectangle whose length is $1\frac{1}{2}$ times its width, and which may be planked with boards of lengths 5, 8, or 9 ft., all running parallel to any (the same) side. What is the least size of the rectangle?

2. If an ounce of pure gold be worth £3 18*s.*; and $\frac{5}{6}$ in weight of a guinea be pure gold, and the remainder an alloy 50 times less valuable; what is the weight of the pure gold in a guinea?

3. How much money must be invested in stock at $97\frac{1}{2}$ which pays an annual dividend of 6 per cent., to realize an income of $600 per annum?

4. A person invests $4500 in purchasing stock at 90 (par value 100). In 3 months he sells 30 shares at 95, and in 3 months thereafter the remainder at 87. If his money be worth 8 per cent., what does he gain or lose by the transaction, no dividend having been paid on the stock in the interval?

5. Show that the following is approximately a correct method of calculating interest at 6 per cent. for a given number of days:—"Divide the number of days by 6; multiply the quotient by the number of dollars on which interest is required; and the result is the interest expressed in mills."

6. A bill due 4 months hence is discounted at 7 per cent. per annum (true discount), and $1267 is received for it. What is its ace value?

7. At what rate per cent. will $100 in 3 years amount to as much as $120 in 2 years at 7 per cent.?

8. A mortgage which is redeemed, principal and interest, by 3 equal annual payments of $250 each, is to be sold. What justly should now (a year before the first payment) be paid for it; interest 7 per cent. per annum?

9. A grocer has teas at 5*s.* and 3*s.* 6*d.* per lb. He mixes them in equal quantities, and sells the mixture at such a price that he gains as much per cent. on one kind as he loses per cent. on the other. What was the selling price, and what does he gain or lose per cent.?

10. The volume of a solid whose faces are rectangles is 786 cubic feet, and its edges are as the numbers 1, 2, 3. Find lengths of these edges.

Values:—1, 10; 2, 12; 3, 8; 4, 10; 5, 10; 6, 8; 7, 10; 8, 10; 9, 12; 10, 10.

SOLUTIONS.

1. The sides are as 3 : 2; 360 ft. is the least distance that will exactly contain 5, 8, or 9 ft. $\therefore$ 3×360 and 2×360, or 1080 by 720 is the least rectangle of the kind.

2. Weight $=\frac{5}{6}$ weight of gold $+\frac{1}{6}$ weight of alloy
Value $=\frac{5}{6}$ gold $+\frac{1}{300}$ gold $=\frac{251}{300}$ gold $=21s.=\frac{21}{78}$ oz. $=\frac{7}{26}$ oz. gold
weight of gold $=\frac{7}{26}\times\frac{300}{251}=\frac{1050}{3253}$ oz.

3. $\frac{\text{Sum}}{97\frac{1}{2}}\times6=600$ $\therefore$ sum $=100\times97\frac{1}{2}=$ $9750.

4. $4500\div90=50$ shares.
Int. on 4500 for 3 m. $=$ $90. Rec. $30\times95=2850$, bal. on int. $=1650$
" 1650 " $=$ $33. " $20\times87=1740$
Total interest $=$ $123 Total R. $=4590$ $\therefore$ G on sales $=$ $90
$\therefore$ Loss $=123-90=$ $33

5. 1yr. $=360$dys. (nearly) $\therefore$ int. on $1 for 1 day $=6$ cents $\div360=\frac{1}{6}$ mill
$\therefore$ Int. on any sum $=\frac{1}{6}$ mill $\times$ days $\times$ sum $=(\frac{\text{days}}{6}\times\text{sum})$ mills, which is the rule.

6. Int. $=\frac{7}{300}$ face, $\therefore$ dis. $=\frac{7}{307}$ face, $\therefore$ proceeds $=\frac{300}{307}$ face $=1267$
$\therefore$ face $=1267\times\frac{307}{300}=$ $1296.56\frac{1}{3}$.

7. Kind of interest not stated.
$100(1+3r)=120(1+\frac{14}{100})$; or $100(1+r)^3=120(1+\frac{7}{100})^2$ according as simple or compound int. is meant. In the former case
$1+3r=\frac{120\times114}{100\times100}=12\times\cdot114=1\cdot368$ $\therefore$ $3r=\cdot368$
$\therefore$ $3R=36\cdot8$, and $R=12\frac{4}{15}$%.
In the latter case
$(1+r)^3=\frac{12}{10}(1\cdot07)^2=1\cdot37388$
$\therefore$ $1+r=\sqrt[3]{1\cdot37388}=1\cdot1116+$, $\therefore$ $r=\cdot1116$, $R=11\frac{4}{25}$ nearly.

8. We shall *assume* compound interest intended.
Then amt. of mortgage $=250(1\cdot07^2+1\cdot07+1)=$ P. W. $\times(1\cdot07)^3$
or P. W. $=250\times\dfrac{1\cdot07^2+1\cdot07+1}{1\cdot07^3}=803\cdot725\div1\cdot225043=$ $656·08.
Or we may take the sum of the present worths of the 3 payts. thus
P. W. $=\dfrac{250}{1\cdot07}+\dfrac{250}{1\cdot07^2}+\dfrac{250}{1\cdot07^3}=250\left(\dfrac{1}{1\cdot07}+\dfrac{1}{1\cdot07^2}+\dfrac{1}{1\cdot07^3}\right)$
$=250\times\dfrac{1\cdot07^2+1\cdot07+1}{1\cdot07^3}$ as before.

See EXAMINATION PAPERS IN ARITHMETIC, p. 3.

9. Cost of teas $=60d.$ and $42d.$, cost of mixture $=51d.$
Selling price $=49\frac{77}{17}d.$, loss % $=3\frac{33}{289}$.

10. *Assuming* that each solid angle has its three planes mutually at right angles, let x be the number of feet in the shortest edge
$\therefore$ $6x^3=786$ cub. ft. $\therefore$ $x^3=131$ $x=5\cdot078753$, and the lengths are $5\cdot078753$, $10\cdot157506$, and $15\cdot236259$ ft. respectively.

ALGEBRA.

TIME—TWO HOURS AND A HALF.

1. Find the factors of $x^3+y^3+z^3$ when $x+y+z=0$.
Find the binomial expression which equated to zero will make $x^3-(2a+b)x^2+(2ab+a^2)x-a^2b$ vanish.

2. Without simplifying $(a+b+c)(ab+bc+ca)-(a+b)(b+c)(c+a)$, shew that it is equal to abc.

3. Find the H. C. F. of
$x^3-2x^2y+4xy^2-8y^3$ and $x^3+2x^2y+4xy^3+8y^3$; and the L.C.M. of
$(a+b)\{(a+b)^2-c^2\}$ and $4b^2c^2-(a^2-b^2-c^2)^2$.

4. Simplify
(1) $\dfrac{(x+a)(x+b)}{(b-c)(b-a)}+\dfrac{(x+b)(x+c)}{(c-a)(a-b)}+\dfrac{(x+c)(x+a)}{(a-b)(b-c)}$.
(2) $s(s-a)(s-b)+s(s-b)(s-c)$
$+s(s-c)(s-a)-(s-a)(s-b)(s-c)$ where $2s=a+b+c$.

5. Solve the equations
(1) $\dfrac{1}{x-1}+\dfrac{1}{x-2}=\dfrac{2}{x}$.
(2) $\dfrac{x}{a+b-c}+\dfrac{x}{a+b+c}=\dfrac{a+b}{a^2+b^2-c^2+2ab}$.
(3) $\dfrac{x}{(a-b)(b-c)}+\dfrac{x}{(b-c)(c-a)}+\dfrac{x}{(c-a)(a-b)}$
$=\dfrac{1}{(a-b)(b-c)(c-a)}$.

6. A man buys a shares of a certain stock for b dollars, and sells c shares of the stock at an advance of p per cent. At what price should he sell the remainder so as to gain $3p$ per cent. on the whole.

7. Extract the square root of
$\dfrac{x}{y}+\dfrac{y}{x}+x+y+2+\dfrac{x}{\sqrt{y}}+\dfrac{y}{\sqrt{x}}+\sqrt{x}+\sqrt{y}+2\sqrt{xy}$; and the cube root of a^3+x^3 to three terms.

8. (1) If $a^4+\dfrac{1}{a^4}=a^2+\dfrac{1}{a^2}+2$, determine the value of $a^2+\dfrac{1}{a^2}$.
(2) If $ax^2+by^2+cz^2+2a'yx+2b'zx+2c'xy=0$ and $(ax+c'y+b'z)^2=Ay^2+Byz+Cz^2$, determine A, B, C.

9. Solve the equations
(1) $\begin{cases}\dfrac{1}{x}+\dfrac{2}{y}=8\\ 6xy=1\end{cases}$
(2) $x^3+xy^2=16=y^3+x^2y$.
(3) Find values for x and y which will make x^2y+y^3+x and xy^2+x^3+y simultaneously vanish.

10. There are three numbers; their sum is equal to their product; the sum of the first and the third is half the second; and the product of the first and second, less the first, is equal to the third. Find the numbers.

SOLUTIONS.

1. If $x+y+z=0$, $x+y=-z$, $x^3+y^3+3xy(x+y)=-z^3$
i.e. $x^3+y^3+3xy(-z)=-z^3$ $\therefore$ $x^3+y^3+z^3=3xyz$.
Observe that only a single power of b is involved. Arrange according to b, and we have
$-b(x^2-2ax+a^2)+x(x^2-2ax+a^2)$, or $(x-b)(x-a)^2$
Thus if $x-b=0$ or if $x-a=0$ the given expression vanishes.
See TEACHERS' HANDBOOK p. 81.

2. Observe the symmetry. If a is a factor the whole expression must vanish when that factor vanishes. Put $a=0$ and we get

$(b+c)bc-bc(b+c)=0$. Hence a is a factor; by symmetry b and c are factors $\therefore abc$ is a factor.

$\therefore$ Express. $=Kabc$ where K is a numerical factor, since each term is of only three dimensions. To find K, put $a=b=c=1$, and $K=1$.

See TEACHERS' HANDBOOK p. 85.

3. For $2y$ write m and $A=x^3-mx^2+m^2x-m^3$, $B=x^3+mx^2+m^2x+m^3$.

Then $A+B=2x(x^2+m^2)$, $A-B=2m(x^2+m^2)$ $\therefore$ x^2+m^2, *i.e.* $x^2+4y^2=$ H.C.F.

$R=(a+b)(a+b-c)(a+b+c)$

$S=(a+b-c)(a-b+c)(a+b+c)(b+c-a)$

$\therefore$ L.C.M. $=(a+b)(a+b-c)(a+b+c)(a-b+c)(b+c-a)$

4. (1) Numr. of sum $=(x+a)(x+b)(a-b)+(x+b)(x+c)(b-c)+(x+c)(x+a)(c-a)$.

To factor this, put $(a-b)=0$ *i.e.* $a=b$, (as in 2) and we have

$0+(x+a)(x+c)(a-c)+(x+c)(x+a)(c-a)$ which $=0$ $\therefore$ $a-b$ is a factor

$\therefore$ Expn. $=K(a-b)(b-c)(c-a)$. Put $x=0$, $a=1$, $b=2$, $c=3$ and we find $K=-1$ which is the value of the sum, since

$(a-b)(b-c)(c-a)$ cancels out of Numerator and Denomenator.

See TEACHERS' HANDBOOK p. 53.

(2) Put $a=0$ and we have $2s=b+c$, also

$s(s)(s-b)+s(s-b)(s-c)+s(s-c)(s)-s(s-b)(s-c)$

or $s^2\{(s-b)+(s-c)\}$, *i.e.* $s^2\{2s-(b+c)\}$, which $=0$.

Hence a is a factor and expression $=Kabc$. To find K, put $a=b=c=2$ $\therefore$ $s=3$, and K is found to equal 1 $\therefore$ expression $=abc$.

5. (1) Transpose thus $\frac{1}{x-1}-\frac{1}{x}=\frac{1}{x}-\frac{1}{x-2}$. Add the sides sep'ly and $\frac{1}{x(x-1)}=\frac{-2}{x(x-2)}$ $\therefore$ $x=0$ and $\frac{1}{x-1}=\frac{-2}{x-2}$ $\therefore$ $x=\frac{4}{3}$.

(2) For $a+b$ write m and we get

$\frac{x}{m-c}+\frac{x}{m+c}=\frac{m}{(m+c)(m-c)}$ $\therefore$ $2mx=m$ and $x=\frac{1}{2}$.

(3) Clear of fractions; $x(c-a+a-b+b-c)=1$

$x(0)=1$, $x=\frac{1}{0}=\infty$.

6. a shares cost $\$b$, one share cost $\$\frac{b}{a}$ Ad. of $p\%=(1+\frac{p}{100})\frac{b}{a}$

$\therefore$ c shares sold for $\frac{bc}{100a}(p+100)$.

Total proceeds need to be $\$b\,(1+\frac{3p}{100})=\frac{b}{100}(3p+100)$

$\therefore$ remaining $(a-c)$ shares must sell for

$$\frac{b}{100}(3p+100-)\ \frac{bc}{100a}(p+100)$$

or price of one share $=\frac{b}{100(a-c)}\{3p+100-\frac{c}{a}(p+100)\}$

7. Taking square root of first four terms we have

$\frac{\sqrt{x}}{\sqrt{y}}+\frac{\sqrt{y}}{\sqrt{x}}+\sqrt{x}+\sqrt{y}$ the square of which agrees with the given expression except that it would require the coefficients of 6th, 7th, 8th and 9th terms to be 2 instead of one. Hence there is a remainder

$-\frac{x}{\sqrt{y}}-\frac{y}{\sqrt{x}}-\sqrt{x}-\sqrt{y}$. See TEACHERS' HANDBOOK p. 11

$(1+x)^{\frac{p}{q}}=1+\frac{p}{q}x+\frac{p(-q)}{1\cdot 2\cdot q^2}x^2+$&c. by Binomial Theorem.

Thus $(a^3+x^3)^{\frac{1}{2}}=a(1+\frac{x^3}{a^3})^{\frac{1}{2}}=a\{1+\frac{1}{3}\left(\frac{x^3}{a^3}\right)+\frac{1.-2}{1.2.3^2}\left(\frac{x^3}{a^3}\right)^2+\&c.\}$

$$=1+\frac{x^3}{3a^2}-\frac{x^6}{9a^5}+\&c.$$

8. (1) Let $a^2+\frac{1}{a^2}=m$

$\therefore$ $m^2-2=a^4+\frac{1}{a^4}$ which $=a^2+\frac{1}{a^2}+2=m+2$

$\therefore$ $m^2-m-4=0$, $m=\frac{1}{2}(1\pm\sqrt{17})=a^2+\frac{1}{a^2}$.

Multiply 1st by a and 2nd expanded, three terms cancel and we get

$y^2(c_1-ab)+z^2(b_1{}^2-ac)+yz(b_1c_1-aa_1)2=Ay^2+Byz+Cz^2$

$\therefore$ $A=c_1-ab$, $B=b_1{}^2-ac$, $C=b_1c_1-aa_1$ if the expression is an identity.

9. (1) $2x+y=8xy=\frac{4}{3}$ from 2nd; $6x+3y=4$, $y=\frac{4-6x}{3}$

$\therefore$ $6xy=8x-12x^2=1$, $12x^2-8x+1=0$ or $(6x-1)(2x-1)=0$, $x=\frac{1}{6}$ or $\frac{1}{2}$ &c.

(2) Put $y=Kx$ and divide 1st by 2nd $\therefore$ $1+K^2=K^3+K$

or $K^3-K^2+K-1=0$ *i.e.* $(K-1)(K^2+K+1)=0$

$\therefore$ $K=1$ or $\frac{1}{2}(-1\pm\sqrt{-3})$.

Substitute these values and we get three values each for x and y.

(3) Add, and $xy(x+y)+(x^3+y^3)+(x+y)=0$ $\therefore$ $x+y=0$ $x=-y$

Substitute this value of y in 1st and

$-x^3-x^3+x=0$ $\therefore$ $x=0=y$, also $-2x^2+1=0$, $4x^2=2$, $x=\pm\frac{1}{2}\sqrt{2}$

$\therefore$ $y=\mp\frac{1}{2}\sqrt{2}$.

10. We have $x+y+z=xyz$, $2x+2z=y$, $xy-x=z$

From 3rd and 2nd $xy=x+z=\frac{1}{2}y$ $\therefore$ $y=0$, $x=\frac{1}{2}$, $z=-\frac{1}{2}$.

NATURAL PHILOSOPHY.

TIME—TWO HOURS AND A HALF.

1. What power (in pounds) is required to maintain a barrel weighing 150 pounds on an inclined plane Plane inclined at an angle of 45° to the horizon.

2. A power=6 pounds, applied at the end of a bar of metal of uniform thickness and density, balances a weight=64 pounds, applied 4 inches from the fulcrum. The bar acts as a lever of the 1st class, and is 3 feet 6 inches long. Determine the pressure exerted by the system upon the fulcrum.

3. State the conditions of equilibrium of floating bodies.

4. Distinguish between:—

(*i.*) Mass and Weight;

(*ii.*) Density and Specific Gravity.

5. What pressure must be exerted upon a cylinder of fir wood, the volume of which=94.248 cubic inches, that it may be totally submerged in water? (Weight of cubic inch of water=252.456 grains.)

6. Explain the theory of the Siphon.

7. How may the centre of gravity of a body be determined experimentally?

8. A cylinder of wood 10 inches high sinks to a depth of $5\frac{1}{2}$ inches in water, to the depth of 7 inches in another liquid. What is the specific gravity of the latter liquid?

9. The diameter of the plate of a hydrostatic bellows is 16 inches, a weight of 180 pounds is placed upon it; what will be the height of the water in the pipe? Diameter of pipe one inch.

SOLUTIONS.

1 The direction of the power is omitted in the problem.

Let AB=length of plane$=L$, BC=height$=H$, AC=base$=B$.

From AB draw KM in the direction in which the power acts, take KM to represent the power, draw MN vertically downwards, and from K draw KN perpendicular to plane meeting MN in N. Then the triangle MKN represents the three forces which are in equilibrium, $\therefore$ $P:W:R=KM:MN:NK$. But we cannot solve the triangle KMN unless the angle MKB is given, and when given we require trigonometry unless it be 30°, 45°, or 60°.

In case the power acts parallel to the plane the above proportion becomes, by similar triangles, $P:W:R=H:L:B$; if parallel to base $P:W:R=H:B:L$. And in this problem $W=150$ and $H=B$ $\therefore$ $L=H\sqrt{2}$, so that we have $P:150=1:\sqrt{2}$, or $P:150=1:1$ $\therefore$ $P=75\sqrt{2}$ or 150.

2. The direction of the power is not given. The position of the weight is left uncertain. If it is not at the end, and the bar projects beyond the point where the weight is suspended, the problem is indeterminate. Assuming the power to act vertically and the weight to hang from the extremity to the bar, let B=weight of bar, whose centre of gravity will be 17 inches from fulcrum.

We have $4\times 64=17B+6\times 38$, whence $B=1\frac{17}{28}$.

Total pressure$=64+1\frac{17}{28}+6=71\frac{17}{28}$.

3. Book-work.

4. The word *mass* is used as an abbreviation for "quantity of matter."—*Todhunter.*

It is found that on all bodies on the earth a pressure is exerted downwards in a vertical direction, and this pressure which is called the *weight* of the body is invariable at the same place for the same body at all times, whatever form, size, or position the body may be made to take.—*Cherriman.* We estimate the mass by observing the weight, since they are proportional to each other.

Density expresses the relation between the mass and the volume.

Specific Gravity denotes the relation between the density of a given substance and the density of a standard substance.

5. S. G. of fir wood not given. It is=·6.

Hence submerging pressure required=·4, or on given cylinder $=94\cdot248\times 252\cdot456\times\cdot4$ grains.

6. and 7. Book-work.

8. Weight of cylinder$=5\frac{1}{2}$ inches of water=7 inches of liquid

$\therefore$ 1 inch of liquid$=5\frac{1}{2}\div 7=\frac{11}{14}$ inch of water. S. G.$=\frac{11}{14}$.

9. Area of bellows : area of pipe $=16^2 : 1^2 = 256 : 1$
$\therefore$ weight of water in pipe $=\frac{180}{256}=\frac{45}{64}lb=\frac{45}{4}$ oz Av.
Now 1728 cubic inches in water weigh about 1000oz
$\therefore$ number cubic inches in pipe $=1000 \div \frac{45}{4}=88\frac{8}{9}$ = height.

EUCLID.

TIME—TWO HOURS AND A HALF.

1. State the different conditions of equality of two triangles, as given in the first book of Euclid.
2. If two triangles have two sides in one equal to two sides in the other, each to each, and an angle, opposite an equal side, equal in each, are the triangles necessarily equal? Explain.
3. Any two sides of a triangle are together greater than the third side.
4. If a point be taken within a triangle and lines be drawn from it to the extremities of the base, the sum of these lines is less than the sum of the two sides of the triangle.
5. The three angles of a triangle are together equal to two right angles.
6. Three unlimited straight lines intersect one another not in a common point. What is the sum of all the angles formed?
7. If a line be divided into two equal parts and also into two unequal parts, the square upon the greater unequal part is equal to the square upon the less unequal part, together with four times the rectangle contained by the half line and the line between the points of section.
8. ABC is a triangle, and CD bisects the base AB in D. Show that $AC^2+CB^2=2AD^2+2DC^2$.
9. Show how to construct a square equal to a given triangle.

SOLUTIONS.

1. There are four cases. 4, 26, 8, 26. See Hamblin Smith's Geometry p. 15, or Potts's Euclid p. 54, Todhunter's Euclid p. 261.
2. If the angles opposite to the other equal sides be both acute or both obtuse or if one of them be a right angle the triangles are equal in all respects.
See H. Smith's Prop. E p. 42, Potts's p. 54, Todhunter p. 261.
3. I. 20.
4. I. 21.
5. I. 32.
6. Twelve right angles. I. 15 Cor. 1
7. $A \quad C \quad D \quad B$

$$\begin{aligned} AC^2 &= BC^2 \\ &= DB^2+CD^2+2CD.DB \\ AC^2+CD^2 &= DB^2+2CD^2+2CD.DB \\ &= DB^2+2BC.CD \text{ (II. 3.)} \end{aligned}$$

$AC^2+CD^2+2AC.CD=DB^2+4BC.CD$, since $AC.CD=BC.CD$.
i.e. $AD^2=DB^2+4BC.CD$. (II. 4.) Q. E. D.
8. Draw CE perpendicular to AB. There will be three figures according as the triangle is isosceles, and B obtuse or acute
Then 1st case follows from I. 47. In 2nd and 3rd cases
$AC^2=AD^2+DC^2+2AD.DE$ (II. 12).
$BC^2=BD^2+DC^2-2BD.DE$ (II. 13). But $BD=AD$ adding
$AC^2+BC^2=2AD^2+2DC^2$. Q. E. D.
9. Particular case of II. 14, in which apply I. 42 instead of I. 45

ADMISSION TO HIGH SCHOOLS.—DEC., 1882.

ARITHMETIC.

1. From 935 take 846, explaining clearly the reason for each step.
The difference between 82610 and the *product* of two numbers is seventy million three hundred thousand. One of the numbers is 9402; find the other.
2. Find the amount of the following bill:—36 lbs. 8 oz. beef at 16c.; 16 lbs. 10 oz. mutton at 14c.; 7 lbs. 12 oz. pork chops at 12c.; 15 lbs. 6 oz. turkey at 18c.; 4 lbs. 10 oz. suet at 16c.
3. Find the L. C. M. of 11, 14, 28, 22, 7, 56, 42, 81; and the G. C. M. of 40545, 124083.
4. Prove that $\frac{3}{4}$ of $1=\frac{1}{4}$ of 3.
Simplify $\dfrac{\frac{5}{14}-\frac{3}{7} \text{ of } \frac{1}{2}}{\frac{5}{16}+\frac{7}{12} \text{ of } 3\frac{1}{4}-(\frac{7}{8} \text{ of } \frac{37}{21}-\frac{1}{3})} \div \dfrac{\frac{1}{3} \text{ of } \frac{1}{2}+\frac{3}{2} \text{ of } 5}{9\frac{1}{3}-1\frac{2}{3}}$.
5. Prove that $1.025 \div .05=20.5$.
Find the cost of .0625 of 112 lbs. sugar, when 1 lb. costs .0703125 of 16s.
6. Reduce 45740108 square inches to acres.
7. The bottom of a cistern is 7 ft. 6 in. by 3 ft. 2 in. How deep must it be to contain 3750 lbs. of water, a cubic ft. of water weighing 1000 ounces?
8. *A.* runs a mile race with *B.* and loses; had his speed been a third greater he would have won by 22 yards. Find the ratio of *A's.* speed to *B's.*
9. *A.* does $\frac{2}{3}$ of a piece of work in 6 hours; *B.* does $\frac{3}{4}$ of what remains in 2 hours; and *C.* finishes the remainder of the work in 30 minutes. In what time would all working together do the work?
10. By selling tea at 60c. per lb. a grocer loses 20 per cent.; what should he sell it at to gain 20 per cent.?

SOLUTIONS.

1. Book work. See H. Smith's Arith. Can. Ed. p. 13.
Product $-82610=70300000$
$\therefore$ Product $=70300000+82610=70382610$
$\therefore$ Reqd. factor $=70382610 \div 9402 =$
2. $37\frac{1}{8}$ @ $\cdot 16=5\cdot 94$
$16\frac{5}{8}$ @ $\cdot 14=2\cdot 32\frac{3}{4}$
$7\frac{3}{4}$ @ $\cdot 12= \cdot 93$
$15\frac{3}{8}$ @ $\cdot 18=2\cdot 76\frac{3}{4}=\$11\cdot 96\frac{1}{2}$.
3. L. C. M. = L. C. M. of 22, 56, 42, 81 = L.C.M. of
$11\times 2,\ 7\times 2^3,\ 7\times 3\times 2,\ 3^4=11\times 8\times 7\times 81=49896$.
$40545=5\times 9\times 17+53$, of which factors only 9 and 17 will divide 124083
$\therefore$ G. C. M. $=153$.
4. Take a line 3 units in length, and divide it into 12 equal parts.
Hence 1 unit in length will contain 4 of the equal parts
and $\frac{1}{4}$ of a unit in length will contain 1 " " " "
$\frac{3}{4}$ of a unit " " " 3 " " "
Again $\frac{1}{4}$ of the whole 3 units in length will contain 3 of the equal parts
i.e., $\frac{3}{4}$ of one unit in length, and $\frac{1}{4}$ of three units each contain 3 of the equal parts
$\therefore$ they are equal to each other.

Expn. $\dfrac{\frac{5}{14}-\frac{2}{14}}{\frac{5}{16}+\frac{91}{48}-\frac{29}{24}} \times \dfrac{9\frac{1}{3}-1\frac{2}{3}}{\frac{1}{6}+7\frac{1}{2}} = \dfrac{\frac{1}{7}}{1} \times \dfrac{7\frac{2}{3}}{7\frac{2}{3}} = \frac{1}{7}$

5. Quotient $=1\cdot 025 \div \cdot 05=1025 \div 50=20\cdot 5$.
1lb. costs $\cdot 0703125$ of 16*s.*
$\therefore$ 112lbs. cost $112\times \cdot 0703125$ of 16*s.*
$\therefore$ $\cdot 0625$ of 112lbs. cost $\cdot 0625\times 112\times \cdot 0703125$ of 16*s.*
$=\cdot 06\frac{1}{4}\times 112\times \cdot 0703\frac{1}{8}\times 16=700\times 1\frac{1}{8}=£35\times 1\frac{1}{8}=£39$ " 7 " 6.
6. 12 45740108
12|3811675—8
9|317631—7 $\therefore$ $7\times 12+8=92$ sq. in.
1210|35293—2 sq. ft.
20 roods —1093 sq. yds.
4
121|4372
36 perches—16 sq. yds.
Ans. 5ac. " 36per. " 16sq. yds. " 2sq. ft. 92sq. in.
7. 3750lbs. = 60000oz. and $\therefore$ =60cub. ft
$\therefore$ depth $\times 7\frac{1}{2}\times 3\frac{1}{6}=60$; or, depth $=60\times \frac{2}{15}\times \frac{6}{19}=\frac{48}{19}=2$ft. " $6\frac{6}{19}$ in.
8. *B's* distance $+\frac{1}{3}$*B's* distance $=1760+22$ yds.
$\frac{4}{3}$*B's* distance $=1782$ yds.
B's distance $=\frac{3}{4}\times 1782=1336\frac{1}{2}$.
$\therefore$ *A's* rate : *B's* rate $=3520 : 2673=320 : 243$.
Otherwise : 22 yds. $=\frac{1}{80}$ mile $\therefore$ in 2nd case *A* would go $\frac{80}{80}$ and *B* $\frac{81}{80}$ ml.
$\therefore$ in 1st case *A* would go $\frac{80}{80}$ and *B* $\frac{3}{4}$ of $\frac{81}{80}=\frac{243}{320}$
$\therefore$ rates are $=320 : 243$.
9. *A* does $\frac{2}{3}$ work in 6 hrs.; *B* $\frac{3}{4}\times\frac{1}{3}$ in 2; *C*, $\frac{1}{4}\times\frac{1}{3}$ in $\frac{1}{2}$ hr.
$\therefore$ *A* does $\frac{1}{9}$ work; *B* $\frac{1}{8}$ work; and *C* $\frac{1}{6}$ work in one hour
i.e. *A*, *B* and *C* do $\frac{1}{9}+\frac{1}{8}+\frac{1}{6}=\frac{29}{72}$ work in 1 hr.
or " " " work in $\frac{72}{29}$ hrs. $=2\frac{14}{29}$ hrs.
10. $20\%=\frac{1}{5}$. Cost—$\frac{1}{5}$ cost $=60$c., $=\frac{4}{5}$ cost $\therefore$ cost $=75$c.
Selling price $=$ cost $+\frac{1}{5}$ cost $=\frac{6}{5}$ cost $=\frac{6}{5}\times 75=90$c.

In whatsoever thing thou hast thyself felt interest, in that or in nothing hope to inspire others with interest.—*Carlyle.*

Thought is the great art: thought can speed faster than the bird flies. The hand of the artisan may lose its cunning, but the discipline of thought is personal property upon which the grave shall have no mortgage.—*Newman Smyth.*

Special Articles.

THE SPELLING-BOOK.

To spell, or not to spell? that is the question the Boston supervisors, in a report made to the school board of that city, have answered in the negative. Their argument, briefly put, is this: The "end sought for in any teaching of spelling" is to give the pupil ability to "spell the words of his own vocabulary;" and, again, "to train children to spell correctly common words." "But correctly written word-forms are most easily and surely acquired when the words are used in their natural connections as expressing thought." Therefore is a spelling-book not needed,—indeed, is a positive evil.

We should have little fault to find with this argument provided we could accept the premises. If it be true that the end sought for in spelling is simply ability to spell the ordinary vocabulary of the child correctly, then the best way to teach spelling would be by written composition; in fact, that would be the only sensible way. But it seems to us that this view of the matter is narrow. A spelling-book properly edited, should have a three-fold purpose. Its first object would be, as stated in the argument above, to give to the child the ability "to spell the words of his own vocabulary." But further than that (2), it would afford the simplest and most efficient means of increasing his vocabulary; and (3), it would place in the teacher's hand the best instrument for the training of the child in the use of his native tongue. It is a grievous mistake to make the vocabularies of the mass of children to depend upon the words they may pick up in the street or home. Children bred in cultivated homes, or young readers of many books, are not helped much by a spelling-book. But it must be remembered that the many are not thus bred, neither are they at an early age great devourers of books. These untoward circumstances exist, and the schools are established to supplement these deficiencies. How shall it be done? The Boston supervisors say, by copying passages from the reading lessons, writing sentences from dictation, compositions suggested by daily lessons in geography, history, physiology, etc. This is all very well, as far as it goes. But it places the child's vocabulary at the mercy of a guess, a "hit-or-miss." He may at the end of his school-course have met frequently enough all the words that he ought to know, and be able to use them, and he may not; there is no system, and, therefore, no surety. A properly arranged spelling-book would bring to the eye and memory a full vocabulary; and it would bring an orderly arrangement, which is also essential.

Besides, this copying of sentences, pieces of poetry and the like, does not necessarily give to the child a better knowledge of the use of words. It may be a performance quite as perfunctory as the spelling of columns of words. Two things are essential to fix the use of a word in the memory of the child. First, he must have his attention directed to it, and, second, he must use it a great number of times in sentences which he himself has originated. It is, therefore, practically better to have the selected words by themselves in a book than scattered here and there, no one knows where, for the teachers, peradventure, to light upon.

The use or non-use of the spelling-book is also influenced by another fact; namely, that if the child has not learned to spell at the age of twelve or thirteen, the chances are that he will never learn to spell after that. Now, if his knowledge of words is to be limited to the street and the few text-books he may use, and there is to be no systematic effort to increase his vocabulary, he will often have cause for shame when he puts away his childish speech and plays the man.

We must confess that we do not think that the ability to spell correctly is of the highest order. Many valuable and pregnant thoughts have been written in what would be called to-day very poor Queen's English. Spelling is a fashion rather than a science. The spelling-book, therefore, seems to us to be of very little value unless it serves the three-fold purpose which we have already mentioned: and of these three functions, the training in the use of the word is the most important.—*N. E. Jour. of Education.*

READING IN THE RIGHT DIRECTION.*

Dull people take little thought about what they read. In their eyes one book is as good as another. It is not so with bright, quick-witted persons, determined to acquire a measure of self-culture. Their reading moulds their characters, gives method to their thoughts, and begets in them the purpose to overcome all difficulties. The last few years have been prolific of biographies and personal recollections of famous men and women. If we learn anything from the recorded lines of Macaulay, Carlyle, Bushnell, John Stuart Mill, Mary Somerville, and others, it is that in early life they were inspired by reading some one book, and educated by its silent force to a greater degree of mental activity. These books may have been as different in character as were the lives of those who studied them. It seems oftentimes to have been of little consequence what the book may have been. It was enough that it inspired in them a will to do better things. Gœthe acknowledged his indebtedness to Goldsmith's "Vicar of Wakefield" just at a critical moment of his mental development, and attributed to this charming little classic much of his subsequent education. "Percy's Reliques" fired the juvenile mind of Sir Walter Scott, and stimulated him to enter upon a literary career. Any good book, whether it be one of the world's great classics, the faithful record of some useful life, or even an obscure work of fiction, may quicken our intellect, influence our hearts, inspire us with hope, and give new strength, courage, and faith. If the book however humble, deals with the chief interests of our daily life, we may get good from it.

Recognizing the importance of a proper choice of books, many wise men have devised schemes to direct the inexperienced reader. As a rule, such well meant but ill-advised courses of reading are dreary failures. It is as difficult to dictate a formal course of mental food for another, as it would be to prescribe a daily programme of physical food. That one man's meat is often another man's poison is as true of reading as it is of eating.

We have not time to read everything, and would not if we could. Need we be ashamed that we have never read a line of Spencer, if we gain daily inspiration from Longfellow? Hume and Gibbon may be closed books to one who takes unceasing delight in Abbott and Headley. Bacon and Montaigne's may be only names to us, but Irving and Charles Lamb are our daily companions.

While we may have a hearty dislike for courses of reading which dictate particular books, we need not discharge as worthless the general suggestions of wise and good men. For instance, Emerson's three rules,—never to read a book that is not a year old; never to read any but famed books; never to read but what you like, are sensible and practical. James Freeman Clarke's rules are equally suggestive,—to read what interests you; to read actively, not passively; to read with order and method.

The advice of such men is merely suggestive and valuable as far as it goes. It is in the nature of things that it does not go far enough. We need something more. Personal help is the best, if we can get it; some good friend to awaken an interest which will

*A. F. Blaisdell, M.D., in the Virginia *Educational Journal.*

grow into enthusiasm, to stimulate our mental appetite, and inspire us with a love for books. Librarians who know their business, earnest teachers, good news-papers, and thoughtful parents may discharge, oftentimes, the honorable duties of a professor of books and reading. A wise friend who can make practical suggestions suitable to our mental vigor and grasp is our best help for the choice of books. Without such an one we must follow our own inclinations. The important thing is to have an interest in the book we read. It is better to read one of Abbott's histories with interest than to plod through a volume of Hume because we feel it is our duty to do so.

Those people gain little profit from books who are continually asking, what shall I read. If we have a healthy mental appetite, we shall be sure to find in these days enough nutritious mental food. We shall learn to be more select, and to discriminate in due time. At the dedication of a library in his native city, the gallant General Bartlett related the incident of a ragged street Arab, who crept into the Boston public library and asked for a dime novel; the same boy reappeared, a few years later, and asked for his own use for a rare edition of Shakespeare which the library did not contain.

It is no matter if your intellectual capital is scanty. The ablest students of books have begun on the scantiest capital. Webster knew Pope's "Essay on Man" by heart, for it was his only book while at work in a saw-mill one winter. "I used to smuggle a copy of Shakespeare into my pocket when I went to the fields at work, and read it at stolen intervals," says John G Whittier.

In reading, as in everything else, we should be guided by certain general principles. They should be few and simple. The next thing is to apply these principles in our daily reading. With a little friendly help and encouragement, it is not at all a difficult matter. The aim and the will are the main things; without them our crowded library shelves are but rubbish, and the suggestions of wise men fall upon deaf ears. Allow me to suggest, in the briefest manner, a few general principles, which, if faithfully and systematically applied in our reading, cannot but help us to lay a foundation, deep and strong, for the studies of coming years.

1. *Read the ordinary works of common reference and quotation.*

Only such as every intelligent person should read, at least once in his lifetime. It is a kind of duty as well as a pleasure. These books are to be read as opportunity affords or as a recreation. Select only a few and the best. For example: "Æsop's Fables," "Robinson Crusoe," "Gulliver's Travels," "Pilgrim's Progress," "Vicar of Wakefield" and a few of the widely known and popular fairy and nursery tales.

2. *Read and consult a few standard works for general purposes.*

That is, for general and useful information—to accumulate a reserve fund of knowledge from which to draw for pleasure or profit, as occasion demands. This should include the common works of reference, as the standard dictionaries, cyclopedias, gazetteers, periodicals, ect. Learn how to use and consult these and other works to which you have access. It is an art in itself to know how to use, without loss of time, and effort, works of reference. If you have not already learned this art, get some intelligent person to show you. This principle includes the reading of the most noteworthy topics of current discussion. For instance, a few simple facts about the electric light, Russian Nihilism, the Irish Question, Civil Service Reform and other subjects. In short, read sparingly, and keep well posted on the live topics of the day.

3. *Read and consult a few works for special purposes.*

That is, read and consult works which help to perfect you in your special occupation. A mariner should study his charts and books on navigation and ocean currents; a carpenter, the latest and best on his trade, and the musician, the best models in music. Whatever your business, improve yourself in it by a systematic and faithful study of its best literature. If you are a student, the study of certain text-books is your daily occupation. Your teacher will guide you to your best helpers. If you are a machinist, bank clerk, jeweller, carpenter, or cotton spinner, some one older and wiser than yourself will only be to glad to tell you what to study first to perfect yourself in your special work. Get once started and no more help is necessary. Nowadays books and periodicals are published on every line of industry. They are just as much tools for us to work with as if they were made of steel or wood.

4. *Read a few books for inspiration.*

That is, books to inspire you to do better things. Call them favorite books, if you please. All of us occaisonally are tired of our daily routine. We get down-hearted, wearied and discouraged. At times, everything looks "blue." We need then the inspiration of certain books to encourage, cheer and sustain us. What are they? As no two of us are alike, so no two need the same kind of help. In fact, the same person feels the need of different books under different circumstances. It may be one of Whittiers's poems, Irving's "Sketch Book," Mrs. Whitney's "Hitherto," "David Copperfield," one of Plutarch's "Lives" or Grimm's fairy tales. It matters little, if we get help, strength and courage, that is enough. It would be as useless to try and make out a list of such books as it would be to dictate what pattern of a new dress or coat to buy.

Let me simply suggest that the six following books are particularly suggestive and full of inspiration to young men: "Character," "Self-Help," and "Duty" by Samuel Smiles; "Self-Culture" by James Freeman Clarke; "Getting on in the World" by William Matthews, and "On the Threshold" by T. T. Munger. It will richly repay every young man to read and re-read these six books. They are full of practical help and wise suggestions. Besides these books and the writings of some favorite poet, young women will find a deal of inspiration in Miss Alcott's "Little Women." Mrs. Whitney's "Hitherto" and Mrs. Goodwin's "Madge" and "Sherbrooke." Here is the point: Have at hand for every day use one or more books which will make you stronger and better.

5. *Read books for a special study of some one thing*, i. e., *read for a hobby.*

What is meant by hobby reading? Let me explain. The need of a hobby is a natural result of our daily living. Most people are bound down to unremitting monotonous work.

Rest of some kind a busy man must have and will surely take, if he properly understands the value of a sound mind in a sound body. Men of talent, genius and industry, thus wisely recognizing the urgent need of some kind of a change, and having learned from past experience the folly of an indiscriminate indulgence in the many frivolous amusements and popular recreations of the day, naturally drift into some special line of work widely different from their daily business. In other words, they seek for a hobby which, steadfastly pursued, furnishes them with the long-looked-for relaxation and congenial occupation.

Aside from the relaxation of the mental and physical tension which a hobby affords, it must of necessity, if judiciously chosen and wisely pursued, contribute to mental and physical improvement. The reason for this is plain. It gives a man something to think of, over and above fagging work. He has less temptation to worry and fret over real or fancied troubles. A contented and hopeful mind, busily occupied, contributes in no slight measure to sound physical health. To this end, a hobby, under proper conditions, answers a most useful purpose.

The objection is sometimes that a hobby must detract from faithfulness or skill in work or trade, No more so than any other

change or recreation. A banker like Robert Dick, a recognized authority on botany; a cobbler like Robert Edward, the great Scotch naturalist; Stedman, the poet banker; Trollope, the post-office clerk and novelist; the Louisville mechanic, the author of a standard work on ferns; a country shoedealer in Vermont, a world-wide authority on American lichens. All these and hundreds of other hard-working men and women in every calling of life it is not to be supposed neglected their business because they chose to spend their spare moments on a hobby rather than in frivolous or questionable recreations.

The pursuit of a particular line of work mtst prove of inestimable value to young people of both sexes. They have an advantage in that they may grow into a hobby, and not select it arbitrarily in maturer years. If such a hobby is intimately allied with their future vocation, so much the better. The young druggist would naturally cleave to chemistry, while the importer's clerk would naturally strive for proficiency in book-keeping or the modern languages. The one great error so often made by young people, and old ones too, oftentimes, is the lack of concentration on some particular line of work or study. The idea is to select the specialty best suited to our needs or tastes—and stick to it.

The vast fields of science and literature are open to all. The humblest may do good to himself and others if he is content to select some remote corner, which abler men have left untilled, and diligently work for a harvest, sure and plenteous. The common excuse is lack of time. But the most diligent have some leisure; at least they make it where idlers have none. "He hath no leisure, says a quaint divine, "who useth it not." Diligent in the pursuit of a hobby, the man of riches or of poverty may find recreation, health and profit—and reputation; and this, too, with little risk of exhausting himself, either mentally or physically.

To sum up in a few words: Do not read according to any formal printed course. Let your reading become a natural outgrowth of your own needs. Advice at least is merely suggestive. Strive to get a healthy mental appetite for useful books. Never read at haphazard. Always have a particular object in using books as you would any other tools. Learn the art of thus using books without loss of time or effort. Always keep in mind that only a very few books are to be read through in regular order. Rather read by topics. Select some special line of study, *i. e.*, a hobby, and stick to it. Remember it is not the number of books we read so much as how we utilize them. Be guided by a few simple principles which shall be systematically applied to your daily reading.

Ever before us as we read should stand the words: "*Avoid Rubbish.*"

OPINIONS OF EDUCATORS ON CORPORAL PUNISHMENT.*

"This kind of punishment, provided always that it is not too often administered, or with undue severity, is the proper way of dealing with willful defiance, with obstinate carelessness, or with a really perverted will, so long or so often as the higher perception is closed against appeal."—*Rozenkranz (in Pedagogies as a System).*

"I believe that corporal punishment should always be resorted to as soon as other modes of discipline fail, and I have known some young persons whose consciences were so weak, and who had so much of the animal in them, that the rod would be for them the most beneficial mode of punishment."—*Mrs. Emma Willard.*

"The parent's will is the only law to the child; yet, being steadily regulated by parental affection, is probably more moderate, equitable, and pleasing to him than any other human government to any other subject. It resembles the Divine government more than any other. Correction, which is sometimes considered the whole of government, is usually the least part of it; a part indispensable, indeed, and sometimes efficacious, when all others have failed." —*Dr. Dwight.*

"The great objection to corporal punishment is the fact that it excites angry passions, not only in the child, but in the master, and more in the latter than in the former. My own experience teaches me that the effect is almost necessarily bad on the individual who inflicts the pain. It excites a horrible pain in him,—a feeling which we might conceive to belong to evil spirits."

—*George B. Emerson, LL.D.*

"I do not hesitate to teach that corporal infliction is one of the justifiable means of establishing authority in the school-room. To this conclusion I have come after a careful consideration of the subject, modified by the varied experience of nearly twenty years, and by a somewhat attentive observation of all the plans which have been devised to avoid its use, or supply its place."—*David P. Page.*

"It is necessary for a child to learn that the violation of law, whether of school, society, or of God, brings inevitable suffering. The sense of right is so imperfectly developed in children, that one of the ways of impressing upon a child that right is right, and wrong is wrong, is by showing that suffering follows from one, enjoyment and a sense of satisfaction from the other."

—*An English Teacher (in Ed. Reporter).*

"Punishment should never be inflicted except in cases of the extremest necessity; while the experiment of sympathy, confidence, persuasions, encouragement, should be repeated forever and ever."

"He who denies the necessity of resorting to punishment in our schools, virtually affirms two things: (1) That this great number of children scraped up from all places, taken at all ages and in all conditions, can be deterred from the wrong and attracted to the right, without punishment; and (2), that the teachers employed to keep their respective schools are, in the present condition of things, able to accomplish so glorious a work. Neither of these propositions am I at present prepared to admit."—*Hon. Horace Mann.*

"It is not wise for school committees and superintendents to formally and publicly forbid the use of corporal punishment in the public schools. (1) Such an act on the part of school authorities would have a tendency to eucourage some pupils to violate school rules. (2) During that period of a child's life when he is deriving all his knowledge through the senses, it may sometimes be necessary to teach him the beauty of goodness by a slight punishment applied to his mind through the body. In such a case the amount of punishment would be so small as not to attract public attention. While these things may be true, it is also true that a teacher possessing the qualities requisite to success in teaching will be able, and inclined, to control his pupils by appealing to a higher principle of action than the fear of physical punishment."

—*Hon. F. W. Dickinson.*

"I have no nesitation in declaring my opinion that in some schools, under some circumstances, and with some pupils, the infliction of corporal punishment is needful and wise. The use of it in some cases is no more brutal than is the knife in the hands of a skillful surgeon. The rod in the hands of a wise teacher is less painful in its effects than are the bitter words of some teachers who boast that they never resort to the rod. My doctrine is, in brief, this: let teachers secure, as far as possible, the respect and love of their pupils; let them make their school-rooms places of happy resort; let them govern their schools with kindly means; yet, if at any time they find there is forced upon them the alternative, utter

* From the Boston *Public School.*

failure in governing a scholar or the use of the rod, I unhesitatingly say, let the rod be used. As an *ordinary* means of punishment, I earnestly deprecate a resort to corporal punishment, and I believe that the teacher who punishes in this way frequently may well question his fitness for the position he occupies."—*D. B. Hagar, Ph.D.*

"There are occasions, however, in which the cane must be resorted to. We have no sympathy with objections to flogging on the score of its cruelty or indignity, provided an interval elapse between the offence and the chastisement. It is much more merciful to castigate a boy than to wear his nerves to exhaustion by appeals to sentiment, affection, or duty, which minister to the vanity of the hard, and the morbidness of the gentle and sensitive. Punishment should be prompt, sharp, decisive, and there end; the object being not to inflict pain, but to deter from future offences, and to restore the moral equilibrium of the offender and the offended school-conscience. This object once attained,—the more expeditiously it is attained the better,—no more should be heard from either offence or punishment. A teacher or parent should never bear grudges. The young interpret such exhibitions as sulkiness and injustice, and do not fail to learn the lesson for themselves. A boy should be allowed to start fresh from punishment, and without stain.

—*Prof. S. S. Laurie, England.*

THE OVERWORK QUESTION.*

Herbert Spencer's criticisms upon the overwork of the American people have called forth a volume of dissent from several of his own countrymen, whose observations in America are much wider than Mr. Spencer's could possibly be, as also from the American press. This old-time and somewhat stale charge is meeting a much sounder discussion than was formerly given to it. It is an instructive illustration of the maxim, "Catch your hare before you cook it;" be sure of your fact before you offer to explain it. Before it can be established as a fact that Americans, as a people, overwork, it must be settled what is over-work. Is it a question of the time spent in labor? American mechanics and common laborers work usually ten hours a day, with frequent days off, and holidays. Our merchants and business men work from six to eight hours, with frequent lulls in trade and long annual vacations. Our lawyers and physicians and other professional men work according to their popularity and the demands made upon them. Many, doubtless, work more hours than they ought; but we suspect that the great majority would be glad to fill up with business many of the idle hours they now have. Our teachers are employed from two to six hours a day with the work of instruction, and give as much time to study as they find convenient. Many of our women, doubtless, work more hours than are good for them; but in the middle and higher walks of life they have as much leisure as they choose to take.

If intensity of work is meant, it is probably true that the Americans work with more energy and rapidity than Europeans of the same classes. It is asserted that American mechanics accomplish more in the same time than Europeans, owing partly to their superior intelligence, and partly to the greater energy and spirit with which they work. American business men are also somewhat famous for their pushing enterprise, due, doubtless, to the greater opportunities offered by the conditions of the country, and the greater prizes for successful efforts. But intensity in work is largely a question of temperament, and it is possible that our drier climate may favor a more active temperament than that of England, or the continent of Europe. We incline to the belief that Americans work with more vigor when they work at all; the slow, sluggish movements, the work without heart and without hope, so often seen among the working classes of Europe, seem infinitely dull and tiresome to the average American. He desires to see his task finished and get the good of it.

If brain work is meant, then it is still more difficult to find the truth. The human mind, and presumably the brain, is in perpetual action at least during the waking hours. And this action is as intense in the hours of recreation as in those of study or labor. Nor does the healthy brain ever have the sense of weariness so common to the muscular system. A "tired mind" is a thing unknown. What is called mental weariness will always be found on careful inquiry to be a physical sensation. It is those mental employments which necessitate long confinement of the body to one position, and shut out the free air, which produce what is called weariness of mind. The merchant who sits over his books three or four hours rises weary and exhausted; but let him spend the same time on his feet engaged with the most engrossing business, moving from place to place in the fresh air, and he may complain of bodily weariness, but never of a tired mind.

The truth is that what is called mental over-work is over-confinement and bad air. Children do not die of too much study, but of too long sitting and of ill-ventilated school-rooms. Put the same children among their fellows on the play-grounds or in the fields, and they will keep tongue and brain busy all the day, year in and year out, without the loss of a particle of vigor or of fresh color. Whenever, in order to think or study, we deprive ourselves of bodily exercise, and shut ourselves up in close and unventilated rooms, we suffer not from over action of the mind, but from inaction of the body, and from that oxygen starvation which steals more lives than all other causes put together. The mental worker is also liable to interfere with his bodily health, by injury to the digestive functions. He fails in the exercise necessary to healthful digestion, and draws blood to the brain which is needed by the stomach. The common curse of the man of sedentary pursuits is the dyspepsia.

Over-work must be work which tasks the powers beyond their ability to repair losses. So long as the system recuperates perfectly after each effort there is no over-work. In the growing period, the recuperation must be something more than repair; it must include the growth in addition. And when it is reflected that work, or at least vigorous exercise, is an indispensable condition of all healthful growth, and of perfected strength, we shall find reason to believe that more Americans suffer from under-work than from excessive exertion. Many of the slender forms and pale faces around us would grow rugged and ruddy if in place of the lives of lazy inaction, which so weakens them, there should come lives of vigorous and hearty work.

* John M. Gregory, LL.D., in the Chicago *Present Age.*

NO "CASE" IN ENGLISH.

We now propose to prove that there is no property of the English noun that can, with any propriety whatever, be called "case." Out of something over a hundred grammars, we make the following extracts from which it will be seen that the "authorities" are by no means united in their opinion as to what "case" is. In answer to the question, What is case? we are told:

Case in English Grammar means condition.—Clark's Norm., p. 85.

The word means ending.—Boltwood, p. 101.

It is the relation of a noun or pronoun to other words.—Harvey, p. 31; Kerl's Comp., page 144: Barton, p. 20.

It is the state or condition of a noun with respect to the other words in a sentence.—Bullion, p. 39.

It is that property of a noun that denotes its relation to other words.—Pinneo, p. 35; Raub, p. 40.

It is that property of the noun which depends upon its relation to other words.—Chandler, p. 14.

It is that modification of nouns and pronouns indicated by their relation to other words.—Clark's Norm, p. 85.

It is that modification which distinguishes the relation of nouns and pronouns to other words.—Brown, p. 52; Burtt, p. 75.

By the *Case* of a noun is meant the relation in which it stands to other words, and to the sentence.—Boltwood, p. 101.

It is that property of nouns and pronouns which shows how they are used in the construction of sentences.—Kerl's Common School, p. 95.

The simple word and suffix are together called a case.—Swinton, p. 34.

It is the condition of a noun (i. e., relation to other words).—Clark's Begin., p. 74.

The case of a noun or pronoun depends upon its relation to other words.—Vickroy (1870), p. 69.

Case is *form*, not *relation*; nevertheless, the form is determined by the relation.—Vickroy, 2d Circle, p. 48 (1881).

Case denotes the relation of a noun or pronoun to other words.—Greene, p. 53; Wells, p. 47. (1865).

Case *is* relation, etc.—Wells, p. 42 (1880).

It is that property which distinguishes the relation of nouns and pronouns to other words in a sentence.—Quackenbos, p. 51.

It is a distinction based on the relation, etc.—Kerl's Shorter Course, p. 85.

It signifies the relation which nouns have to other words.—Butler, p. 28.

It means the different state, situation, or position nouns have in relation to other words.—Kirkham, p. 41.

It denotes the relation which a noun sustains to other words in the sentence, expressed sometimes by its termination and sometimes by its position.—Fowler, p. 26.

Cases are forms of words used on account of the relations the words hold to other words.—Hinds' Topics, p. 43.

In some languages the form of nouns and pronouns determines their case. Not so in English. All nouns have the same forms. Clark's Begin. p. 76.

Case is a mode of inflection used to show the relation of a word to another word.—Colegrove, p. 84.

I deem the essential qualities of case in English to consist, not in the changes and inflections produced on nouns and pronouns, but in the offices which they perform in a sentence, by assuming different positions in regard to other words. In accordance with this definition these cases can be easily explained on reasoning principles founded in the nature of things.—Kirkham, p. 41.

Case [is] the form of substances in English, by which their relations to the other parts of the sentence are indicated.—Webster's Dictionary.

The use which is made of a noun or the office which a noun has in the construction of a sentence, is called the *case* of a noun.—Cruttenden, p. 157.

Case is a rhetorical attribute, which the noun derives from its use or office in the sentence.—Cruttenden, p. 200.

It is a change in the termination or situation of nouns.—Long, p. 12.

In the Latin, Greek, German and many other languages, the cases of nouns are determined by their terminations. But, as English nouns have no inflections, except to form adjuncts, the cases are determined only by the offices of nouns in sentences.—Clark's Normal, p. 85.

Case means little more than use in connection with other words. Abbott, How to Parse, p. 29.

The word case properly means ending, and was introduced into our language from a language in which different relations are indicated by different endings. There is no necessity for retaining it when speaking of nouns.

Those who use the name of case for the relations call the subject the nominative case; the object of a verb, or the subsequent of a preposition, the objective case; and a noun in the possessive relation, the possessive case, calling all other relations the independent case. But it is better to drop the term "case" in analyzing, and to speak of a noun as subject, object, subsequent, possessive, or as absolute, that is without *grammatical relation*.—Boltwood, p. 101.

Now, from the foregoing quotations, we see that there exists among our grammarians a very great diversity of opinion as to what case in English is. Some tell us that case is "relation;" some, that it is a "property that *denotes* relation;" some, a "property that *depends* upon relation;" some a "modification *indicated* by relation;" some, a "modification which *distinguishes* relation;" some, a distinction *based* upon relation;" some that it is "state or condition;" some that it is "form:" some that it is "ending;" some that it is the "use or office-work" of a noun or pronoun; some, that it is "a rhetorical attribute" which the noun derives from its "use or office-work;" some that it is "position or situation;" and some "that there is no necessity of retaining it, because the English noun is without grammatical relation!"

Says Mr. Kirkham: "I think that five grains of common sense will enable any one to comprehend what is meant by case. Its real character is extremely simple; but in the different grammars it assumes as many meanings as Proteus had shapes. The most that has been written on it, however, is mere verbiage. What, then is meant by case? . . . It is *position* or *situation*. This is clear."

Surely amid such a variety of viands, the grammatical epicure ought to be able to find something that will satisfy his palate!

Now, the foregoing different views, as well as several minor shades of opinion, are offered us by as many different authorities. If we adopt any one of them we shall be at variance with many of the others, while if we adopt the view of one particular authority—Mr. Boltwood—we shall throw case out of English grammar entirely. "When doctors differ," etc.

If we now examine some of these authors separately, we shall see how consistent each grammarian is with himself.

Harvey says: "Case is the *relation* of a noun or pronoun to other words." He also says, "The Absolute case is the use of a noun independent of any governing word."

Now, how can a noun that is used independently be said to sustain any grammatical relation to any other word? Or, if it possesses any relation, must it not be an independent relation? And what kind of a relation is an *independent* relation? What kind of a dependence is an independent dependence? Again, if case is the relation of a noun to some other word, would it not follow that a noun which has no such relation can have no case? And why does it not follow that Mr. Harvey's "Absolute" case is, according to his own definition, *no case at all?* It seems to us rather a *difficult* case! Moreover, on pp. 32 and 108, he gives us the "Objective case without a governing word."

Now the noun in each of these conditions—"absolute" and "objective"—is employed only to name objects, and in each instance, is used "without a governing word." What then, in these instances, is the radical difference between Mr. Harvey's "objective" and his "absolute" case? Both are without government, and, therefore, independent. We might present our argument thus:

It takes *relation* to make *case*.

Nouns independent of government have no relation.

Ergo, Nouns independent of government have no case.

What Mr. Harvey calls the "absolute" case, Mr. Raub calls the "Nominative Case Independent," and says: "A noun is in the Nominative Case Independent when it is independent of any other word in the sentence."—Raub. p. 42.

Mr. Bullions uses the term "Nominative Absolute," and on p. 213 says: "A substantive whose case depends on no other word is put in the Nominative Absolute or Independent; because, though always in the form of the nominative, yet it has no grammatical dependence on any word in the sentence." Also, on p. 40, he says: "Words not in relation can, strictly speaking, have no case."

Here is a plain acknowledgement of the very conclusion which we just reached, viz., that words not in relation, *i.e.*, used independently—without government—can have no case. And hundreds of other English grammarians have virtually acknowledged as much. But why do these gentlemen retain the term "case" in such instances? Mr. Bullions makes answer for the whole corps by saying that "for convenience in referring to them, this distinction is, in some instances, retained!"

To such extremities as this are our grammarians pushed in their endeavors to bolster up their tottering system! Retaining a thing that does not exist for convienence' sake!

But, furthermore, there are some other authorities who substantially agree with M. Harvey in his definition of the case, but who present their statement in different diction, and tell us that "case is the relation which a noun or pronoun sustains to other words *in a sentence.*" This statement is substantially given by Quackenbos, Fowler, Kerl, Barton, Smith, etc. Kirkham and Cruttenden tell us that "the case of a noun or pronoun is its use or office-work *in a sentence.*" It will be noticed that Mr. Harvey, in his definition of case does not use the words, "*in a sentence,*" though we presume that he intended to *imply* as much.

Now, the point we wish to make is that these gentlemen tell us that case is the relation of a noun or pronoun to some other word *in a sentence*, and not *out of* a sentence: *i.e.*, a noun can have case only when it is used *in a sentence.* It will, therefore, follow that *out of* a sentence, a noun can have no case. But in the expression, "Going *down* hill *into* the river" (which expression is not a sentence), every grammarian in Christendom would tell us that the words, "hill" and "river," are in the Objective case, after the prepositions, "down" and "into," respectively. So that, after teaching that "case" *can not* exist outside a sentence, these gentlemen would flatly contradict themselves by teaching that "case" *does* exist outside a sentence!

But, to give these grammarians a "boost" in their trouble, we will permit them to "amend," and to say: "Case is the relation of a noun to other words in a sentence, or *phrase.*" That is, it takes *relation to some other word* to constitute case, and words not used in some sentence (or phrase) sustain no such relation—are used independently—and, therefore, *have no case.* If, for example, we take the word, "John," and ask these grammarians what case it is in, they will say that it is in no case at all, that it must be put into some sentence or phrase, and then it will have case. And yet these same grammarians persist, with an unyielding tenacity, in pressing upon us their "Absolute," "Independent," "Nominative Absolute," or "Nominative Independent" case, admitting at the same time that the words for which they thus claim these case names do not belong to any sentence or phrase, and, therefore, according to their own definitions, *have* no case!

The syllogistic form of our argument would run thus:

Case is the *relation* of a noun to some other word in a sentence (or phrase).

Nouns not in a sentence (or phrase) sustain no such relation.

Ergo, Nouns not in a sentence (or phrase) have no case.

Case—and yet *no* case; *no* case—and yet *case!*

Why invent a name for a case when no such thing as case exists? Why invent a name for a relation when no relation exists? Or is it an *independent*—a *negative* relation? What sense is there in such twaddle! Where can there be found—except in English grammars—such a jumbled up mass of *contradictions and absurdities!*

This much respecting those grammarians who tell us that case is "*relation.*" There are others who tell us that case is "*state or condition.*" If by these terms is meant something different from what others mean by "*relation,*" then we are unable to comprehend just exactly what these writers *do really mean.* But if by "state or condition" is meant "relation," then these "state-or-condition" men are in the same boat with the "relation" men.

Messrs. Brown, Burtt & Co. tell us, on the other hand, that case is the "*modification*" of a noun that "*distinguishes*" its relation to other words.

Now, what these gentlemen mean by "modification," we confess our inability to understand. If by "modification" is meant "relation," then we have case defined to be "that *relation* which *distinguishes* relation"—a very clear thought, indeed! If by "modification" is meant "state or condition," then we must go a little further, and beg to be informed what is meant by "state or condition." If by "modification" is meant "ending" or "termination, then we can not see how those grammarians who adopt this definition, can make out more than *two* (2) cases at the most; for, the so-called *Nominative* and *Objective* have but *one* and the *same ending*, and the so-called *Possessive* must furnish the other ending. Yet, Mr. Brown gives us three *cases*, and Mr. Burtt *four.*

In closing, we again call attention to the motley mass of unexplained and conflicting views of case herein presented. Mr. Kirkham there tells us that "five grains of common sense will enable *any* one to comprehend what is meant by *case.*" As we have only *four* grains, we shall have to take a back seat. We think, however, that M. Kirkham gives utterance to *one* indisputable truth, when, speaking of case, he says: "In the different grammars it assumes *as many meanings as Proteus had shapes!*"—*Iconoclast in Pittsburgh Educational Review.*

Examination Questions.

SPECIAL INTERMEDIATE EXAMINATION.

DECEMBER, 1882.

ENGLISH GRAMMAR.

TIME—THREE HOURS.

1. Strong Son of God, immortal *Love*,
   Whom we, *that* have not seen thy face,
   By faith, and faith alone embrace,
   Believing where we cannot prove;

   Thine are these orbs of light and shade;
   Thou madest life in man and brute;
   Thau madest Death; and *lo*, thy foot
   Is on the skull which thou hast made.

(*a*) Analyze the whole passage fully.
(*b*) Parse the words in italics.
(*c*) Write out the whole passage in prose, so as to show that you thoroughly understand the meaning.—[*Note*—The second value is for the literary form of the answer.]
(*d*) Explain the allusions in line 5, and in the last two lines.
(*e*) Derive *faith, embrace, prove, orbs, brute.*
(*f*) In what respect is the rhyme of lines 6 and 7 faulty?

2. Correct any errors in the following sentences, giving your reasons for each correction:—

(*i*) The *Telegraph* might certainly have been expected to have outgrown the idea that either of the great American parties acknowledge hostility to England as its ruling principal.

(*ii*) The more British Columbia becomes known, the more extraordinary appears its wonderful resources.

(*iii*). The Northern and North-Western Railway have issued a new time table.

(*iv*) While the plaintiff was being examined, his sister, who was setting in the court-room, fell screaming to the floor, laying there insensible for some minutes.

(*v*) A father, as well as his son, were terribly injured by the explosion of a waggon-load of gunpowder near Jackass Mountain, which they were conveying to the railway works.

(*vi*) Addison contributed to the last volume of the 'Spectator' 24 numbers, many of them being the finest of his essays.

(*vii.*) If the privileges to which he has an undoubted right, and has so long enjoyed, should now be wrested from him, would be flagrant injustice.

(*viii.*) I shall live hereafter suitable to my station.

(*ix.*) I should be obliged to him, if he would gratify me in this matter.

(*x.*) This wheel will not turn ; I must send it to the wheelwright to be fixed.

(*xi.*) Who learned you to fall trees so good ?

(*xii*) Those men who have not abandoned their hardly accquired knowledge, are anxious to do something to show that their devotion to letters are genuine.

(*xiii.*) Etymologically, 'politics' mean the science of citizenship.

(*xiv.*) Is it not a plain hint to us that where denominational colleges are compelled to make strong appeals for assistance, that we will have to make vigorous efforts for to secure further aid ?

3. Distinguish between *ingenuous* and *ingenious*, giving the abstract substantive formed from each of these adjectives ; also between *contemptuous* and *contemptible*, *súrvey* and *survéy* ; *désert*, *desert* and *dessert* ; *cónjure* and *conjúre*.

4. Accentuate *theatre*, *catastrophe*, *condolence*, *precedent*, *accessory*.

5. Spell phonetically—*subtile*, *ironmonger*, *gauge*, *constable*, *sergeant*.

6. Give the full etymology of the following words :—trespass, journey, lord, veal, verdict, kerchief, feat, savage, hotel, pilgrim.

7. Give five words of Greek origin (not ending in *-ology*).

8. Give five derivatives of each of the following Latin words :—*capio*, *fero*, *gradus*, *loquor*, *cœao*, *cado*.

9. Give three instances of double plurals in English substantives, with the meaning of each form ; and three of nouns plural in form and singular in signification.

10, Complete the elliptical clauses in the following sentences :—

(*i.*) I had rather die than endure such a disgrace.

(*ii.*) He is better to-day than yesterday.

(*iii.*) I'd rather be a dog and bay the moon, Than such a Roman.

11. Punctuate the following sentence :—While we earnestly desire said he the approbation of our fellow men and this desire the better feelings of our nature cannot fail to awaken we should shrink from gaining it by dishonourable means.

Values :—1 (*a*) 16, (*b*) 6, (*c*) 9+4, (*d*) 4, (*e*) 5, (*f*) 1 ; 2 (*i*) 4, (*ii*) 2, (*iii*) 4, (*iv*) 6, (*v*) 4, (*vi*) 2, (*vii*) 2, (*viii*) 2, (*ix*) 2, (*x*) 2, (*xi*) 6, (*xii*) 2, (*xiii*) 2, (*xiv*) 6 ; 3, 13 ; 4, 5 ; 5, 5 ; 6, 10 ; 7, 5 ; 8, 30 ; 9, 6 ; 10 (*i*) 2, (*ii*) 2, (*iii*) 4 ; 11, 7.

ENGLISH LITERATURE.

TIME—TWO HOURS AND A QUARTER.

The value for each question, under the heading M., is for the matter of the answer ; the additional value, under F., is for its literary form.

I.—GOLDSMITH'S DESERTED VILLAGE.

1. Beside yon straggling fence that skirts the way,
With blossomed furze unprofitably gay,
There, in his noisy mansion, skilled to rule,
The village master taught his little school ;
A man severe he was, and stern to view,
I knew him well, and every truant knew;
Well had the boding tremblers learned to trace
The day's disasters in his morning face.

(*a*) Explain : *unprofitably gay* ; and the last two lines.

(*b*) *blossom'd*. How is the past part, here used ? Substitute the more usual form.

(*c*) Parse *skill'd*, in the 3rd line, and show how the position of the words in this and in the 6th line causes ambiguity.

(*d*) Parse *view*, in the 5th line.

2. Quote the first ten lines of the address to Poetry at the end of the poem.

3. What are the chief characteristics of Goldsmith's poetry ? Name his chief poetical and dramatic works.

4. "Trade's unfeeling train
Usurp the land, and dispossess the swain."

Why is the verb plural ?

II.—COWPER'S TASK. Bk. III.

1. All flesh is grass, and all its glory fades
Like the fair flow'r dishevelled in the wind,
Riches have wings, and grandeur is a dream ;
The man we celebrate must find a tomb,
And we that worship him, ignoble graves.
Nothing is proof against the gen'ral curse
Of vanity, that seizes all below.
The only amaranthine flow'r on earth
Is virtue, th' only lasting treasure, truth.

(*a*) Parse *graves*, *all below*, *truth*, and fill up the ellipsis in each case.

(*b*) Give the meaning and derivation of *dishevell'd*, *gen'ral*, *vanity*, *amaranthine*, *treasure*.

(*c*) Explain fully the meaning of the passage from "The man we celebrate" to "virtue."

2. Explain the italicised words in the following passages, and state in what connection they occur :—

(*i.*) In whom
Our British *Themis* gloried with just cause,
Immortal *Hale* !

(*ii.*) Hideous nurseries of the *spleen*.

(*iii.*) Like a gross *fog Bœotian*.

(*iv.*) They form *one social shade*, as if convened
By magic summons of th' *Orphean lyre*.

3. Sketch briefly the life and character of Cowper.

III.—ADDISON'S SIR ROGER DE COVERLEY.

1. After *having despatched* all our *country* matters, Sir Roger made several inquiries concerning the club, and particularly *of* his old antagonist, Sir Andrew Freeport. He asked me, with a kind smile, whether Sir Andrew had not taken the advantage of his absence to vent among them some of his republican doctrines, but soon after, gathering up his countenance into a more than ordinary seriousness, 'Tell me truly', says he, 'don't you think Sir Andrew had a hand in the Pope's procession ?' But without giving me time to answer him, 'Well, well,' says he, 'I know you are a wary man, and do not care to talk of public matters.'

(*a*) Parse the words in italics.

(*b*) What is meant by the "Pope's procession ?" In what year did the particular procession here referred to occur, and what was the cause of the greater prominence given to the custom in that year ?

2. Sketch the principal characters of the Spectator Club, besides Mr. Spectator and Sir Roger.

3. (*a*) Give an outline of the history of newspapers in England, down to the appearance of the Spectator, and show how this and its immediate predecessor differed from the newspaper of that day.

(*b*) Mention Addison's principal collaborator in the Spectator, and give some account of him.

Values :—1 (*a*) M 4, F 2, (*b*) M 2, (*c*) M 3, (*d*) M 2 ; 2 M 5 ; 3 M 4, F 2 ; 4 M 2 ; II. 1 (*a*) M 6, (*b*) M 10, (*c*) M 6, F 2 ; 2 (*i*) M 4, (*ii*) M 2, (*iii*) M 2, (*iv*) M 4 ; 3 M 6, F 8 ; III. 1 (*a*) M 3, (*b*) M 4, F 2 ; 2 M 6, F 2 ; 3 (*a*) M 4, F 2, (*b*) M 4, F 2.

GEOGRAPHY.

TIME—TWO HOURS.

1. In what countries are the sources and mouths of the Elbe, the Meuse, the Douro, the Rhine, the Rhone, the Brahmapootra, the Yukon, the Columbia, the Colorado, the Amazons, the Vistula, and the Niemen.

2. State in detail what you would expect to see if you made a coast voyage around the Mediterranean.

3. Draw a rough map of the British Isles, marking the courses of the Thames, the Severn, the Trent, the Tyne, the Tweed the Clyde, the Shannon, and the Tay, and the positions of Belfast, Dublin, York, Cork, Glasgow, Aberdeen, Dundee, Edinburgh, Liverpool, Manchester, Bristol, London, and Birmingham, and of the smaller islands.

4. Compare the physical characteristics of Africa and South America.

Values :—1, 24 ; 2, 28 ; 3, 28 ; 4, 20.

DICTATION.

TIME—THIRTY MINUTES.

Note to the Presiding Examiner.—This paper is not to be seen by the candidates. It is to be read to them *three times—first*, at the ordinary rate of reading, they simply paying attention, to catch the drift of the passage ; *second*, slowly, the candidates writing ; *third*, for review.

A sudden irruption into Belgium, as it was more suited to the daring genius of Napoleon, and better calculated to encourage the ardour of his troops, afforded him also a more reasonable prospect of success. He might by a rapid movement, direct his whole force against the army either of England or of Prussia, before its strength could be concentrated and united to that of its ally. He might thus defeat his foes in detail, as he had done upon similar occasions, with the important certainty, that one great and splendid victory would enable him to accomplish a general levy, and thus bring to the field almost every man in France capable of bearing arms ; an advantage which would infinitely more than compensate any loss of lives which might be sustained in effecting it. Such an advantage, and the imposing attitude which he would be thereby entitled to assume towards the allies, might have affected the very elements upon which the coalition was founded, and afforded to Bonaparte time, means, and opportunity, of intimidating the weak and seducing the stronger members of the confederacy.

COMPOSITION.

TIME—ONE HOUR AND A QUARTER.

I.

Write out the sense of the following poem in good prose, in your own words :—

O, Maid of Isla, from the cliff,
  That looks on troubled wave and sky,
Dost thou not see yon little skiff
  Contend with ocean gallantly ?
Now beating 'gainst the breeze and surge,
  And steeped her leeward deck in foam,
Why does she war unequal urge ?—
  O, Isla's maid, she seeks her home.

O, Isla's maid, yon sea-bird mark,
  Her white wing gleams through mist and spray
Against the storm-cloud, lowering dark,
  As to the rock she wheels away ?—
Where clouds are dark and billows rave,
  Why to the shelter should she come
Of cliff, exposed to wind and wave ?—
  O, maid of Isla, 'tis her home.

As breeze and tide to yonder skiff,
  Thou'rt adverse to the suit I bring,
And cold as is yon wintry cliff,
  Where sea-birds close their wearied wing
Yet cold as rock, unkind as wave,
  Still, Isla's maid, to thee I come ;
For in thy love, or in his grave,
  Must Allen Vourich find his home.

II.

Write a composition on one, and only one, of the following subjects —

(*a*) The Scientific Discoveries of the 19th Century.
(*b*) Is Ambition a Vice or a Virtue ?
(*c*) Does Morality Advance as Civilization Advances ?
(*d*) "Peace hath her victories no less renowned than War."

N. B. —One of the above subjects must be attempted, *besides* the paraphrase of the poem.

HISTORY.

TIME—TWO HOURS AND A HALF.

1. Sketch the career of Hannibal, giving the localities, dates and results of fiive of his chief battles, and the date and circumstances of his peath.

2. Define the relations of the Italian races with the city of Rome from the end of the Second Punic War to the death of Sulla.

3. Give an account of the struggle between Marius and Sulla, and its results.

4. Show how the Wars of the Roses increased the power of the Crown on the one hand, and of the people on the other.

5. Describe the character of the reign of Charles II., and state what causes led to his restoration.

6. What principles of Constitutional Government were established by the Revolution ?

7. State the objects and result of Lord Durham's mission to Canada.

8. Give the principal provisions of the Canada Constitutional Act of 1791, and estimate its results.

9. Name the five most important military engagements of the War of 1812–14, and state the origin and result of that war.

Values—1, 10 ; 2, 10 ; 3, 10 ; 4, 10 ; 5, 10 ; 6, 10 ; 7, 10 ; 8, 10 ; 9, 10,

BOOK-KEEPING.

TIME—ONE HOUR AND A QUARTER.

1. Explain the use of the Day Book, Trial Balance, Cash Book How do you transfer an entry from one book to another ?

2. State the different kinds of Accounts ; and explain the process of closing the Profit and Loss Account.

3. Define the terms Assignee, Bonded Goods, Bounty, Invoice.

4. Write out the form of (1) a Promissory Note, (2) a Bill of Exchange. What do you understand by "endorsing" a Note ?

5. What are the advantages of Double Entry ?

Make the proper entries for the following —

(*a*) Purchased Mdse. amounting to $1000, for which I paid in cash $300, and for balance my note, due 3 months hence.

(*b*) Borrowed $2000 from A.B. for 4 years, for which I pay interest half yearly, at the rate of 6 % per annum.

(*c*) Sold goods amounting to $400, for which I received $200 cash, and for balance note due 6 mos. hence.

(*d*) Note of $200 overdue 2 months ; interest at 6 % per annum.

Values:—1, 16 ; 2, 14 ; 3, 16 ; 4, 12 ; 5, 22,

CHEMISTRY.

TIME—ONE HOUR AND A HALF.

1. What experiments would you perform to demonstrate the properties of Chlorine ?

(In answering this question employ diagrams of apparatus used to illustrate the description of your experiments.)

2. In the evolution of Ammonia from Liquor Ammoniæ by heat aqueous vapour passes over with the gas. Describe a method for drying the Ammonia.

3. Describe and figure the apparatus used for the evolution of Hydrogen from Zinc and Sulphuric Acid.

4. What takes place when a cylinder filled with Nitrogen Dioxide is inverted over a cylinder filled with Oxygen ? Write the equation representing the reaction.

5. How much Potassium Chlorate is required to furnish 12 litres of Oxygen measured at O°C. and 760^{mm} P. ?

6. Explain a method of preparing the amorphous variety of Sulphur.

7. Complete the following equations :—

$Zn + 2HCl =$

$3\,Cu + 8(HNO_3) =$

$2(H_2O) + K_2 =$

$Ca\,CO_3 + 2(HCl) =$

8. (i.) Compare the properties of Oxygen with those of Nitrogen Monoxide.

(ii.) What test may be employed to distinguish between these two Gases.

Values :—1, 20 ; 2, 10 ; 3, 8 ; 4, 10 ; 5, 12 ; 6, 10 ; 7, 12 ; 8, 10+8,

Practical Department.

THE PROBLEM OF TEACHING TO READ.

BY J. M. D. MEIKLEJOHN, M.A.

(Continued from last month.)

It will be seen that this irregularity and want of keeping faith fall chiefly upon the vowels. We have in our language 104 different ways of representing to the eye 13 vowel-sounds. Let us take a few of the most striking cases. Short *ĭ* is represented in our English notation by 13 symbols ; short *ĕ* by 12 ; long *ē* by 11 ; long *ā* by 13 ; short *ŏ* by 11 ; long *ō* by 13 ; short *ŭ* by 13 ; and long *ū* by 12. We, who are grown up, have been so long accustomed to these things, that we do not notice them ; but the child has to notice them, and he suffers from them more or less—and generally more.

The digraphs, too, perplex and confuse the child. The oddest of them all is *gh*, which we use in the writing of seventy-five words. But in sixty-three of these we ignore the *gh* entirely ; and in nine of them we make an *f* of it. The story of the *gh* is comical enough. As nearly as I can make it out, it is this : The Normans, who had been learning French for several generations, had as a consequence been throwing aside and leaving unuttered their native guttural sounds. Perhaps, in some cases, the muscles of the throat, which are employed to utter guttural sounds, became atrophied ; but in any case it had grown to be the 'fashion' not to pronounce throat-sounds ; and the English or Saxon scribes wrote them down faithfully, but quite simply. They wrote *light*, *might*, and *night*—as *liht*, *miht*, *niht ;* and the *h* had a more or less guttural sound. But the Normans declined to pronounce this *h ;* they either could not or would not. Then said the Saxon scribes: 'Oh! you fine Norman gentlemen will not sound our language as it is ; you ignore our gutturals ; we will *make* you sound them.' So they strengthened the *h* by putting a *g* in front of it ; just as a farmer might strengthen a hedge by putting a strong wooden fence in front of it. But the Normans respected the one no more than the other ; *gh* is in fact far more difficult to sound than simple *h ;* and accordingly they now ignored both. But the *gh* remains—a moss-grown boulder from an ancient glacial period, when gutturals were precious, and men still beleived in the truthfulness of letters.

The work done by the letter *e* is perhaps the most remarkable instance in our language of a union in one letter of real work with superfluous busybodiness. Like the learned counsel in Chaucer's *Prologue* :

And yit he seemëd busier than he was.

There is—

(1) Its usual work before consonants, as in **wet** and **went.**
(2) Its use to lengthen the preceding vowel, as in **mate.**
(3) The doubling of itself to make its own long sound as in **feed.**
(4) Its combination with **a** for the same purpose, as in **meat.**
(5) Its combination with **a** for the opposite purpose, as in, **bread.**
(6) Its coming after **i** to make a long sound, as in **pie.**
(7) Its coming before **i** for the same purpose, as in **eider.**
(8) Its combination with **i** for a quite different purpose, as in **piece.**
(9) Its combination with **i** to make its own long sound as in **receive.**
(10) Its going before **w** to make a long **u** sound, as in **few.**
(11) Its going after **u** for the same purpose, as in **due.**
(12) Its going after **u** to make a quite different sound, as in **true.**
(13) Its following **o** to make a long **o**, as in **foe.**
(14) Its preceding **o** for the very same purpose, as in **yeoman.**
(15) Its combination with **y** to make a long **a** sound, as in **they.**
(16) Its combination with **y** for no purpose at all, as in **money.**
(17) Its combination with **i** to make a long **a** sound, as in **veil.**
(18) Its combination with **i** to make its own short sound, as in **heifer.**
(19) Its appearance at the end of a word with no purpose at all, as in **couple.**
(20) Its combination with **d** with no purpose, as in **walked.**

By this time, the child can hardly be expected to know what an *e* is and what it is not.

The following are a few more of the

CONTRADICTIONS OF E.

1. { Dream / Bread } Here it is *long* and also *short.*
2. { Pie / Brief } Here it lengthens and also shortens.
3. { Pie / Eider } Here it comes *after* and also *before* for the same purpose.
4. { Due / True } Here it has an effect on the *u*, and also no effect

Nothing can be more confusing and distressing to the young learner, unless the fairy *Good Order*, summoned by the Teacher, comes in to assort these tangled threads and intertwisted distractions.

It may be useful to sum up all the above statements in the form of a concise

BILL OF INDICTMENT AGAINST OUR ENGLISH NOTATION.

1. An Alphabet of 26 letters is set to do the work of 45 sounds.

2. In this Alphabet of 26 letters, there are now only 8 true and fixed quantities.

3. The remaining 18 have different values at different times and in different positions ; and sometimes they have no value at all. In other words, they have a topographical value.

4. Some of these 18 letters do—in addition to their own ordinary work—the work of three or four others.

5. A Vowel may have from 20 to 30 functions in our English Notation ; a Consonant may have two or three.

6. There are 104 ways of representing to the eye 13 vowel-sounds.

7. Six of these vowel-sounds appropriate to themselves 75 ways of getting printed.

8. In the most purely English part of the language, the letters are more often misleading than not. In the word *cow* or *they*, for example, there is no single letter that gives any true knowledge or guidance to the child. That is, the letters in the purely English part of our composite speech have a historical, but no present value.

9. The monosyllables of the language contain all its different notations, and these with the maximum of inconsistency. In reading the monosyllables, the child can trust neither his eyes nor his ears.

If this notation—which is the dress of the language—could be exhibited to the eye by the help of colours, it would be seen to be of the most piebald characters. It would be not inaptly described by a sentence in one of Dicken's novels : 'As for the little fellow, his mother had him attired in a costume partly Scotch, partly Hungarian, mostly buttons,* and with a Louis Quatorze hat and scarlet feather.

* The buttons would represent the *es*.

If we compare the notation of our English tongue with the notation of the German language, we shall find that—as in its words, so in its letters—German is an almost homogeneous language. One sound is permanently—and not provisionally represented by one symbol; one symbol is permanently translated by one sound; and the consequence is that the experience of the German child in learning to read is always self-consistent, and every effort he makes tells towards the desired result. The attitude of his mind is a single and easy one; every act of attention he makes tells towards the required total; he cannot go wrong if he pays any attention at all; his eye and his ear are always in accord and help each other. Far different is the condition of the poor English child. His attention to the letters will quite as often mislead him as not; in the purest English, the less attention he pays to the letters the better; and he is like a man in trade—he may often be working as hard to make bad debts as to make good ones. The contrast between the work of the German Teacher and of the English Teacher is just as great. The German Teacher's work is simple and straightforward; while the work of the English Teacher is at least five times as difficult, and the conquest of these difficulties requires keen skill, perpetual inventiveness, and untiring perseverance.

Now all this has come to pass from the independent and highly individualised character of the Englishman. A local usage—a traditional custom would always override general convenience or a merely abstract consideration like logical consistency. Indeed, the confusion in our notation has parallels in almost every side of English life. It has an extraordinary parallel in our Weights and Measures, which have been regulated—down to the date of the 1878 Session of Parliament—entirely by local custom. An imperial bushel of corn is estimated in Mark Lane at 63 lb.; but it was—down to 1878—72 lb. at Wolverhamton and Stafford, 70 lb. at Liverpool, and 75 lb. at Chester. In short, there were, prior to the passing of the Weights and Measures Act, twelve different kinds of bushels in use in the rain trade. This state of things gave rise to endless confusion. A man might buy his wheat by one measure, sell it by another, and, last of all, demand to be paid for it by weight. These complications involved endless reckonings, and, by consequence, numerous mistakes. They were a great hindrance to trade, and, no doubt, were now and then the cause of serious losses. Another parallel is to be found in the coinage of Austria. There is gold money; there is silver money—some of it debased and deteriorated; and there is copper money; but, in addition to these, there are four different kinds of paper money in four different languages, and some of it is debased to the extent of sixty per cent. It is plain that, if one received payment of an account in six of these different kinds of money, there would be—over and above the calculation of the value of the things bought *in a self-consistent arithmetic*—another reckoning based upon the relative and temporary values of the different kinds of money. In such reckonings, a foreigner and a child would be at a very great disadvantage. Now, just as an English bushel or an Austrian coin is continually changing in meaning and value, so the symbols by which we attempt to carry words to the eye of a child are constantly changing in meaning and value; and the child's mind is proportionally confused and weakened. If we had in our arithmetic a traditional system of notation made up of the fragments of the Greek, the Roman, and the Arabic systems; if 479 were written down as $_{\Delta}$VII9; and if, moreover, our coinage were so irregular that sixpence in Middlesex counted for eightpence in Surrey, but it was only fourpence in Hertfordshire, then it would be a very difficult, tedious, and expensive process to teach arithmetic in our public schools.

The difficulty that would be felt, and the expense that would be incurred, in teaching such an arithmetic as that I have indicated, are really felt and incurred in the teaching of reading—in putting into the minds of the children an acquaintance with the bad habits of our notation. For the problem is not to make the child acquainted with 26 letters; it is really to make him acquainted with and thoroughly practised in 158 eccentric and self-consistent habits which the English have acquired in the course of time, of writing down the sounds of their mother-tongue. To master 158 combinations would require 158 separate acts of attention—each of which must be repeated until the whole are thoroughly mastered. Well; this can be done. But the difficulty is even greater than this. Of these 158 habits, some are inconsistent with and destructive of each other; and the *experience* of the child is not a regular process of addition and cumulation, but sometimes of subtraction and loss. Let me take an example. There are in the language 59 words in which the symbol *ou* sounds as in *house*, *noun*, &c.; and, of course, if the child meets with a large number of such words, he naturally and quite unconsciously draws the conclusion that *ou* will always have this sound. But by and by, he lights upon words like *your*, *four*, *would*, and *mould*; and now, not only is his previous experience upset, but he forms a vague idea that to *ou* may be attached almost any sound whatever. Now, if we attempted to give an arithmetical value to his experience, we might say: He has met the first case of *ou* nine times; he has met the second case six times; and his experience is therefore equal to three. This is, however, rather a favourable way of putting it. The fact is, that, in our every-day procedure with children, the exceptions make themselves quite as important as the rule; and both Teacher and child, in a kind of silent intellectual despair, give up the guidance of the rule altogether, and teach and learn each word separately, as an individual, and not as one of a class.

The child at first expects to find a certain truth in these marks; but he quickly comes to feel that it is no matter what sound you give to a sign—that the sign itself has only a chance value: and, so far as training is concerned, the Teacher soon discovers that his eye is never rightly or thoroughly educated until after the expenditure of a disproportionate amount of time and money. He has constantly to read off letters that are not there, and to ignore letters that are there; he is constantly coming upon new forms for the same sound, and new sounds for the same forms, so that habit is out of the question. So far as the mind of the child is concerned, unless the Teacher adopts a scientific method, no wish for classification ever arises in the child; or it sets in late, if it ever sets in at all. His past experience is constantly putting him out—constantly tripping him up; until at last he comes to feel that he need not rely on his own exertions, but must be constantly helped over the stones by the teacher. Thus all *teaching* of reading becomes *telling*; and these are just contraries and exclusive of each other. And here is another loss: our evil notation tends to destroy good teaching.

(*To be Continued.*)

ENGLISH LITERATURE IN SCHOOLS.*

This is pre-eminlenty an age of books and periodicals, bad as well as good: and if we estimate the demand by the supply, we must conclude that the influence exerted through their mediumship ranks in power second to none. This influence like the literature naturally divides itself into two classes, the first an educating, broadening, civilizing, and refining force, leaving its impress upon humanity for all time; the second a stultifying, degrading and demoralizing factor, as effective for evil as the first is for good. To arrive at the conclusion that this later class of literature is being spread broadcast over the land, we need but examine the heavily laden shelves

* Read at the meeting of the Wisconsin Teachers' Association, Madison, Dec. 27, 1882, by Principal Keys, R Falls.

and counters of any popular book and news store aud note that week after week the piles are being replenished. To counteract this something must be done. Boys and girls who have been educated up to that point where the act of reading is not hard work, *will* read, suiting the subject matter to the nature of the inward craving that exists. If early teaching has not insured that the reader look with disdain upon such productions as "Roaring Bill of Rock Hollow," "The Pirates Bride" or "The Lives and Exploits of the Younger Brothers," very probably some such productions will occupy at least a portion of time. Without staying to discuss the *amount* of evil resulting from the dissemination of such thought, or the question as to how much of this is due to a total neglect on the part of teachers of what their pupils read, permit me to pass to a consideration of the means by which we may inculcate a taste for a better class of reading, means which to prove effectual, should be resorted to from the beginning of the child's school-life, yes even before he is able to read.

Who that has ever given any attention to the development of the child mind can have failed to notice that craving for something to satisfy their intellectual hunger, shown in their oft repeated "Read me a story." Why should we not take advantage of this appetite, and in satisfying it, take occasion to plant in the young mind the germ of that which shall in coming years develope itself into a passion for the good and great and beautiful in Literature. As a rule we find that at this stage in life nothing at all is done along this line, or else the mistake is made which results in giving us so many persons of liberal attainments, whoare totally unable to appreciate anything in literature appealing to the imagination. Too many considered it useless—nay worse than useless—injurious to do anything for the cultivation of imagination. At the very period in life at which this faculty is the most promising, it is either allowed to die of starvation or sacrificed to the unnatural support of some other member of the cerebral family. Fairy tales, legends of wonderland, the beautiful myths of the old Greeks and Romans, which the student of literature afterwards fiinds it so necessary to understand and which confront him with the scientific name of mythology—fables, inculcating the moral and social virtues—all these are cast aside as silly, childish and unpractical, a fellow sentiment to the one which insists that the boy must know interest, square and cube root , etc., even if he does not know how to write an intelligible letter or speak correct English.

Books there are, however, where fact and fancy are so closely interwoven as to satisfy ihe demands of him who must see his proximately practical use for everything without the expenditure of a moment's thought. I remember distinctly my first large story-book, "The Seven Little Sisters That Live in the Round Ball That Floats in the Air," and I spent hours in thinking and dreaming over the wonderful things which I read and re-read. They were put upon the same basis as my fairy tails, and sank just as deeply into my mind. Years afterwards, when my teacher began to tell me of this wonderful earth of ours that goes spinning through space, and the different people who live upon it, my story was quickly translated, and became a series of valuable lessons in geography and ethnography. Books of this class, together with books bearing a similar relationship to natural history, will be eagerly-devoured. It is wonderful how much useful information may thus be imparted and the desire for more increased.

The chief line in which corruption of taste may come in early years is that of reading cheap and villainous periodicals. This may be prevented by placing in the hands of the pupil something of a fitting and interesting nature, and then striving to create a sentiment against the worthless reading. A little persevering energy in this direction will soon drive out the practice from our schools, or if not totally eradicated the habit will soon be put on a basis with other evils in which some pupils may clandestinely engage. There are periodicals like the "Youth's Companion," for instance, which will be seized upon with avidity by all young readers.

The storing of the mind with useful thonghts clothed in beautiful language is an adjunct to this work, which cannot be too highly rated. It should be begun early when the child memory is in its vigor. The practice is often aimlessly followed by teachers of having their pupils learn poetical quotations of any kind that jingles, without reference to the thought. The fact that verse is more easily memorised than prose seems to be enough to commend it. "It thus happens," says Bain, "that poetry above all other things may be committed to words as three-fourth words, and one-fourth meaning." Prose selections, although more slowly mastered, will as a rule be of more benefit. But the time does come when poetry may be read with advantage. As few persons accustomed to simple foods only at once relish the highly seasoned dishes of the French cook, so few pupils are at first able to appreciate the beautiful in poetry. Like the great mass of our tastes, it begins with little things and its growth is gradual. Were we to begin our high living with an attempt at highly-spiced soups or wines there might come straightway an aversion to these delectables which we might be unable to overcome in years of willing effort. So the teacher who endeavours to furnish as mental pabulum for his classes beginning an acquaintance with poetry, Milton's Paradise Lost, Virgil's Æneid, or Shakespeare's Tragedies, may expect to see them turn in disgut, and wonder what manner of individual it can be who can enjoy such reading. To prevent such a disasterous state af affairs, necessity demands that the first poems selected shall be eminently interesting. Short ballads, historical poems, etc., may pave the way to something of a more formal nature. One poem that in our individual experience has proved more useful than others as an appetizer for the higher class of reading is Scott's Lady of the Lake. Read daily for thirty minutes to a class of twenty pupils, discussed at the time of reading, reproduced in short prose tales, and in five minute talks from members of the class, and so handled as to insure its thorough understanding and preclude the possibility of its serving simply as an occasion for a little mental dissipation, we believe it engendered an appetite for more of the same kind with fully three-fifths of that class which will leave its impress upon them through their entire lives. They become possessed with a desire to know something of the man, and his contemporaries and their writings, until they become ardent lovers of good reading, if not earnest students of English literature.

Some years ago this Association saw fit to outline a course of reading for the teachers of the state of Wisconsin, which I have reason to know has borne good fruit. I am cognizant of the fact that in at least three counties of this state the course has been and is being read by the great majority of the teachers, and county superintendents make a note of such reading on all certificates issued. Now while I recognize the philanthropy of this work of reconstructing so many teachers, would we not secure much more good if a suitable course prepared by the most experienced and able talent of the state for the pupils of our schools were placed in the hands of the teachers through the agency of the state department? The great mass of the teachers of the next generation are in the schools of to-day, and the effects of such a movement would be felt in the schools of the future. Were it not that it might seem like an attempt to close discussion of this topic, I would move that a committee be appointed by the chair to prepare a course of reading for the pupils of the public schools, report to be made to this body at the regular meeting in July.

THE READING CLASS.

The teacher who expects to attain the best results in her management of the reading class, must be attentive to the following particulars: 1. She must comprehend what are the desired ends of her teaching of this class. 2. Knowing these, she should understand the best means and methods of reaching them. 3. She will have to be persistent in her efforts to accomplish them, and be able to know when a fair degree of proficiency is attained.

I propose only to say a few things concerning the first of these particulars—the ends to be accomplished in the teaching of the reading class. When I refer to the reading class, I wish to be understood as that class which begins with the child in its first attempt to learn the signs of ideas as associated with visible objects, and continues on up through every grade of advancement, till it finally emerges from the tuition of a teacher. The question which every faithful teacher should settle within her own mind is, "What are all the objects to be arrived at in teaching reading? What is the nature of them?" If she has finally settled this matter, she should then familiarize herself with every principle, every method, calculated to develop that purpose, until to her mind they are as simple as the alphabet.

To one who has never given this subject much thought in its broadest sense, an outline of the main things to be accomplished may not be inappropriate.

1. *A Mastery of Words.*—The beginning point in the commencement of teaching every child is to teach him *words.* He must be taught to recognize them as the representatives of ideas, first as the signs of objects familiar to him; and as he advances, by reversing this order, for he then learns *ideas* by learning to recognize words which were not familiar to him. When the child learns to know a word, he should be taught to speak it and write it. By the latter process he is taught te spell the word. It will not be attempted in this article to suggest methods. The skillful teacher's ingenuity will devise her own. The result is all that shall claim our attention. In the mastery of words, the pupil must learn to *recognize* words; to *associate* the word with the *idea* it represents; to *speak* the word; and *spell* the word by *writing* it. The accomplishment of this result is not confined to the primary teacher, but will continue to be an object of importance as long as the pupil studies the art of reading. The methods only need varying.

2. *Delivery.*—After the pupil has been taught a sufficient number of words to construct into sentences, he should then be taught to read them in a proper manner. The first principles of delivery should be taught them at once. The habits of articulation, emphasis, inflection, etc., are only perfected when they are enforced in early youth. As the pupil progresses, more of the principles of expression should be taught him, and when sufficiently advanced, the terms, definitions, rules, etc., of elocution should be mastered. All the arts of oratory, all the graces of the elocutionist, should be taught, if he continues in school long enough for their accomplishment.

3. *Increasing the Child's Vocabulary.*—No other subject is so important as this. When a pupil becomes the master of a large vocabulary of words and knows their meanings, he is then in possession of such means as enable him *to think.* Our ideas are always *thought* in words and *expressed* in words. If we notice our own cogitations, we will always find ourselves employing words to aid us in following out a train of thought. The child's knowledge of words should be as much expanded as is possible. Right here I will venture to suggest that the dictionary is perhaps the best aid in the accomplishment of this end. Giving definitions, synonyms, and the various meanings will be a most valuable exercise. As the pupil progresses, a study of the etymology of every new word coming up for discussion will strengthen this knowledge. A thorough drill in these exercises will prove most invaluable to the pupil in the pursuit of the knowledge of other branches.

4. *The Study of Language.*—The reading recitation affords many and excellent opportunities for acquiring an intimacy with the structure of our language. The relation and government of our words may be taught a long while before the pupil is capacitated for the investigation of technical grammar. Certain slate exercises on the reading lesson will result in a development of the powers of expression. Children under skillful teaching will have made considerable progress in a knowledge of their language while yet reading in the primary readers. It should not be taught in a desultory manner, either; the simplest principles should be first developed, and afterwards more complex ideas mastered. What is taught should be thorough as far as it goes.

5. *Learning the Elements of other Branches.*—In our reading books there are many lessons which teach facts pertaining to other studies. Biography, history, geography, and science are all more or less represented in the reading exercises of our text-books. The teacher should see that they are fully understood by the pupil. It will often be necessary to supplement these lessons with explanations by the teacher, in order to make their meaning plain. It is proper that pupils have regular exercises in reading, writing, or script. Lessons placed on the board by the teacher, in which are stated the elements of science, or some other branch of knowledge, will answer a two-fold purpose—a reading lesson, and a lesson in a collateral study. Such lessons heighten the interest, quicken the thinking faculties, increase the common fund of knowledge, and improve the memory.

6. *The Study of Literature.*—Just now this subject is receiving some of the attention that its importance deserves. While it is impossible to discuss this matter as fully in a brief space as it merits, a hint ought to be sufficient to the wide-awake teacher, that her work is not satisfactorily or effectually preformed if she pass this matter unheeded. Biographical sketches should be written on the board, and the pupils encouraged to hunt up information on the same subject for themselves. They should further be required to write up suchs ketches. They must be instructed in the peculiarity of style of each author. The productions should be analyzed, and the choice thoughts memorized. By beginning with the child at an early age, and teaching no more than it is able to comprehend, and keeping it until it has grown into the young lady or gentleman, a large amount of culture in this direction will be quite preceptible.

7. *The Cultivation of the Voice.*—If the teacher is perfectly well informed regarding *all* that is incumbent upon her in developing a proper culture of her pupils, she will not neglect this. No rules are to be given here. Pleasing voices delight us all. They impress us agreeably or otherwise according to their character, and if there is such a thing as improving an unpleasent voice by cultivation, that teacher is greatly to blame who fails to make an effort towards its accomplishment. The voice is susceptible of cnltivation to a great degree of power; its expression may be made beautiful and varied; and its care should constitute a large share of attention. The nature of certain kinds of food, the dress, the use of stimulants, and exercise, should be fully explained to every one, and all be required to conform to such rules as will promote and preserve its power and beauty.

8. *Cultivating a Love for Reading.*—No teacher has fully succeeded who has failed to implant in her pupils a passionate love for reading. Not reading for mere entertainment of the mind, but the nobler, the higher uses of seeking wisdom in the realm of thought,

as it is to be found in books and papers. That individual is poorly prepared for life who has not been taught to enjoy the great pleasure of perusing the thoughts of others. Reading should not stop when the school life is ended, nor when one settles down into a home and business of his own. All should read, not anything and everything, but should be taught to read in a systematic way. Thus will they round out their intellectual talents in all directions, and verify the truth long ago stated by Bacon, that "Reading maketh a *full* man."

T. W. Fields, *in Indiana School Journal.*

A LANGUAGE LESSON.

Unbounded as is the influence of the teacher, for good or ill, in no direction is it more potent than in the matter of language. Children are close imitators. The teacher's language is adopted unconsciously, whether it be pure, or blemished by inaccuracies. We all know how easily one falls inio incorrect habits of speech, and catches expressions which, if not positive slang, are , at least, "more striking than classic." We imitate the tones and tricks of speech of those with whom we are most intimate, to such an extent that those who know both parties recognize the adopted tone, and immediately attribute it to its proper source.

It is through this tendency to imitation, that the teacher may hope to affect the language of her pupils, as well as by personal effort for that end. But is her language worthy of imitation? Is it grammatically correct, pure, simple truthful? One has only to listen to the conversation at any teachers' gathering, to be convinced of the fact that the teacher is not always a model of accuracy.

Perpahs, young teacher, your attention has not been called to your own defects. Watch yourself carefully through one entire day, and you will be startled at the revelation. You may not be guilty of "aint"; of "I done it," for "I did it"; of "When I come to school this morning," for "When I came," etc. Are you equally free from, "He don't (do not) pay attention to his work," "intended to have written," "I am going to go to the lecture," "Each pupil may take their slate," and the like?

Endeavor to correct all these errors, and you will realize how hard it is to overcome the habits of a life time. Is it not a dreary thought that, with extremely rare exceptions, human beings are surrounded in childhood by those whose speech is inaccurate? Thus from our very births we form wrong habits that only the most presistent effort can correct. And here we find a strong argument for accuracy on the part of the teacher, as well as for the correction of pupils' errors by the teacher, before bad habits are strengthened by years of indulgence therein.

Do not be discouraged if you do not at once succeed in revising your methods of speech. Take one error at a time. Cultivate the habit of criticising the language of others, not uncharitably, but to render the ear sensitive to errors. When one's ear is quick to detect flaws in the conversation of others, it will reveal equally as well one's own imperfections. This point reached, we have good reason to be hopeful.

Is your language pure? Do you, of several expressions, choose that which is the most refined? Be on your guard against the use of slang. To young children there is something attractive in a free off-hand style of conversation; but do not let the freedom degenerate into coarseness. There are many expressions which began existence as unmitigated slang. Adopted here and there by members of a class higher than that with which they originated, they have at last come to be regarded as fairly respectable English. Shun them. Be as exclusive as you will in the domain of language. Let your language be simple and concise; free from that superfluous use of adjectives which leaves one at a loss for words to decribe objects occasioning emotions of grandeur, sublimity, and beauty, because "awful," "magnificent," "grand," "sublime," "perfectly lovely," are used so commonly as to have lost their meaning.

Be true. Perfect truthfulness of character will reveal itself in truthful language. The habit of exaggerated utterance is so universal that a person whose language is exactly suited to the thought to be expressed is indeed rare. Let your conversation be so simply true, so free from exaggeration that your pupils will say of you, "Teacher never says anything she does not mean."

Does it seem a trivial matter to give one's attention to deciding whether a dress is indeed "*perfectly* lovely," or only "very beautiful"? "He that is faithful in that which is least, is faithful also in much." Remember that years of faithfulness to duty, even as a child, bring their reward in the crises of our lives. When the heart is torn with anguish, and the mind is shrouded in darkness; when on the pathway before us no light is thrown, and we are tossed about in dread and uncertainty; then Duty, who may have been the "stern lawgiver" of former years, assumes "the Godhead's most benignant grace"; and, giving back to us the strength that is born of long obedience, holds us firmly by the hand and leads us again "beside the still waters."

Our language has been made what it is to-day by the accumulated additions of successive generations. What service shall our generation render? In the future years will the student of language find in the language of this peroid a high-toned national life? In nothing is the life of a nation more plainly revealed than in its language. Remember, and we cannot emphasize this point too strongly, that the nation is but the "general average" of the individuals composing it,—whether in language, manners, or morals. It is only as each individual becomes conscious of his duty, and seeks a higher plain of personal attainment, that there can be any national aspiration toward higher things. Ponder upon this, young teacher. Let the thought stay by you until it beeomes a part of your mental possessions. Nay, more, until it shall become a ruling motive of your life, and is incorporated into your character that fine patriotism that leads one to make of himself all that he can, for his country's sake.

By Ida M. Gardner, in the Primary Teacher.

SCRIPT FIRST—THEN PRINT.

A teacher asks, "Why printing on slates should not be taught to small children since that is the form which is first put before them." The child should be taught to read script first from the black-board, and he should begin immediately to copy the words on his slate. One reason for copying is, that there are no books or charts, which contain repetition enough to familiarize the child properly with the words.

By teaching the script first in this way the child learns the print form to be the reading form. He makes the transition without difficulty. If you teach print first on the other hand, it seems almost like a new language to learn the script. This method has been tried a great many times and all who try it say that script should come first. One of my classes is composed of children who knew nothing whatever of reading script first. I taught them script from the board, taking words I knew they would need when they were ready for the chart. When these words were familiar, I turned to the chart, and found they read them with perfect ease. The error in this way of teaching reading is, that those who try it do not present the words to the child sufficiently in script before turning to print.—*V in New York School Journal.*

THOUGHTS ON LEARNING LANGUAGES.*

Hänschen's father sat on the deck of an excursion-steamer with little Hänschen on his knee. Hänschen was a bright, little roly-poly German boy. He had never heard of "methods in language," but he was learning German. So was I; so I sat near the happy father and son, and made a study of Hänschen's masterly method of getting hold of his subject.

"What's that, papa?" pointing with the plump little index to the rapidly-passing shore. "That's a castle." Hänschen repeats the word after him quick as thought. He meditates a minute. Being a lover of truth, he will repeat the question to be sure of the correctness of the statement. "Papa is that a castle?" "Yes; that's a castle." Hänschen feels assured. "Another castle?" Again the little fat finger does good service. The big brother comes to his assistance. "O, see the castle, Hänschen?" The eyes of the baby-boy glisten with interest and his curly pate bobs about. No castle is to be seen. He frowns; he has been deceived. He knows a castle now. No one can deceive him on that subject.

Hänschen is a social being. He is getting his education by intercourse with other minds. Moreover he is busied about the most important branch of education. He is learning to enter into the thoughts, feelings, and motives of his fellow-men. What are the principal features of Hänschen's method?

First: He learns one thing at a time.

Second: He repeats it again and again. When he gets home, he will tell mamma about the castle, and there will be a review-lesson on the subject. To-morrow he will find a castle in his picture-book.

Third: He busies himself with a thought. not a word; just as when he takes his luncheon, he thinks about the bread, not about the fat little hand that holds it.

Is Hänschen amused by the castle? More than that: he is intensely interested. Is it tiresome to him to talk about the castle? Is his brain wearied by this new thought?

That night, while Hänschen eats his bread, his big brother tells him about a castle ten times as large as the one he saw to-day. A dreadful ogre lived in it who ate up little boys. Hänschen's imagination begins to run riot. He dreams of a sugar castle, which he will eat all himself. His lips suck it gently in his dreams. He will never forget the word "Schloss." Neither shall I.

By a daily repetition of this process our babies, all over the land, learn that absolutely perfect imitation of the speech of their elders which, is the wonder, admiration, and envy of any adult who attempts to accomplish the same thing. No idiom or pronunciation is too difficult for them to attain. The vocabulary of the small child may be limited, yet the real difficulties of the language have all been mastered long before he is five years old.

In learning foreign languages can we make any improvement on this method? The study of language, when properly undertaken, is a delightful recreation. It deals with that most charming of all subjects,—human nature. The bright eye, the glowing cheek, the youthful enthusiasm, are its attendants. In this, as in all other branches of study, the teacher must learn to know his place, to be a learner with his pupils. Let him sit at the feet of the infant babblers and learn perfection in method.

In so far as he can learn to develop the personality of his students, to arouse in them a love of thoroughness and appreciation of the beauties of language, in so far does he show himself a humble, conscientious, and worthy follower of the method of a little child.

* By Maud Bell, Teacher of French and German, Potsdam (N.Y.) State Normal School.

SCHOOL-ROOM SKETCHES.

BY JOHN R DENNIS.

In the Bailey school-house a new teacher had been obtained. He was a tall, lank fellow; a high brow and compressed lips showed he was narrow in ideas and determined of will. The pupils were from the farm houses and the little hamlet near the mill and woollen factory. They were not a bad set of boys and girls; their fathers and mothers were steady church goers and a prayer meeting was held in the school-house each Sunday afternoon. Yet it was deemed necessary that very strict discipline should prevail, at least what was called dicipline.

On opening the school Mr. Allen told the boys and girls that "he should expect good order; that no whispering would be allowed; that no one could swear or call names on the school ground, or on the way to and from school." He held in his hand a stout ruler and waved it about in an energetic manner while speaking and finally laid it on the desk. "Boys," he said in conclusion, if I have occasion to use that ruler it will be your fault; and mark me, if I use it I shall use it with a heavy hand."

This was a common enough peroration twenty five and thirty years ago; but light was beginning to dawn on the boys in the Bailey district. Some had been to an academy in a village about ten miles distant and returned with the information that no one was flogged there. The determination was deep and strong among the older boys that they would not be flogged at school. "If I can get along at the academy without flogging, I can at a district school, I guess," said Julius Cone.

The parents sided with the ideas of the teacher, because in all times past children had been whipped at school. The advice they often repeated to the boys, was "only bad boys are whipped; and if you are good you are safe enough." The preceding winter a boy had been tied to a post and whipped very severely, because he made a picture of the teacher sitting on a barrel and smoking a pipe. As this was what he had been seen to do at a small grocery, near the mill, the castigation was deemed by the boys to be a great injustice. Deacon Cook represented the other side of the case. "He mustn't disrespect the teacher; besides he mustn't make pictures on his slate, that's for cipherin' on."

So that, unknown to the parents a revolution had begun in the district. At the close of the first day, the subject was pretty thoroughly discussed, and the older boys determined, "not to be put upon; if Mr. Allen treats us well, we'll treat him well." The second day brought in an addition to the pupils for the farm work was nearly completed. After cautions as to whispering the teacher had the pupils "read round in the testament"; this was the first thing done in all country schools years ago; the old and the young all read a verse. Mr. Allen watched the boys, for he meant to strike terror at the outset. He foolishly thought that flogging was part of his duty as a teacher, and that it must be done in order to secure order.

"You are whispering: come out on the floor." The unfortunate boy was Peter Cowles, a good natured, but obstinate boy of seventeen or eighteen years of age. Peter obeyed.

"What was you saying?"

"I said, I wish I was to hum."

"What did you say that for?"

To this no reply was made, for Peter would rather be whipped than tell the school that he had come from home without any breakfast. Mr. Allen conceived that Peter intended to compare the school with his home and to assert that his education would be

advanced as much at home as at school. This affront he must put down at once.

"Off with your coat, sir."

"I'd rather not take off my coat," said Peter.

The reason was that the boy had no vest on and his suspenders were mere strings, for the Cowels were poor—yet they had pride; in fact this was the strong point of the family. Mr. Allen did not know that Peter was resisting to save the reputation of the family, but looked at his resistance as displaying a further depth of depravity.

Then ensued one of those scenes, then so common, but happily less so now; a scuffle between the teacher and pupil. The teacher was armed with a stout ruler and used it as a policeman does a club, but the cruelty he displayed aroused Julius Cone and he held the master's arm.

"You ought not to strike him like that, and I'll not stand by and see it."

The younger children and girls rushed out of doors, but returned at the quiet that ensued. The teacher sat in a chair and two of the older boys James Barnes and Julius Cone were beside him.

"We don t intend to hurt you, but we cannot see that boy beaten with a club for nothing.

Mr. Allen was in a quandary; it was necessary for him to teach school; he felt there was justice in what the boys said; and so after a moment's thought he said,

"Do you mean to prevent me from keeping order?"

"No sir; we shall only prevent you from abusing that boy."

"Well, boys, take your seats, call in the pupils and let us talk this over."

The result was that the teacher and the older pupils came to an understanding. It seemed to the master at first that he was humiliated and that his influence was gone, but it was but for a brief period. He soon felt that James and Julius were his firm friends; as they came to know each other better, each respected the other more. Mr. Allen had the making of a good teacher in him and the school that winter was declared by many "the best we ever had."—*New York School Journal.*

CONCISENESS IN STYLE.

In teaching children to write the first effort is to induce them to write as much as possible about a given topic. Later, however, the the great point should be to express a given thought clearly in the fewest words. A good rule to follow is this: First, write out your thoughts fully on the subject under consideration. Second, revise your composition and cut out from one-fourth to one-half. What is left will contain all the essential ideas, and be more pointed than the first draft.

Conciseness, especially in written speech, is a great virtue. Teachers need to study it—they should teach it. Writing tele grams is an excellent exercise. A minister who was taken to task for preaching a whole hour, apologized by saying that he had been over-worked, and did not have time to make his sermon shorter. Hawthorne is acknowledged to have been a master of a pure English style. You will not find an italic letter in any of his books. His emphasis was in the sense of what he wrote. He used, almost entirely, words of few syllables. There are no big, heavy words in his works. He used no foreign words or phrases, either ancient or modern, in any of his writings. Those who would write well should follow his example. Use short sentences; if long ones, break them up. Have one member of a compound sentence longer than another. Use words to make things clear. Think of your reader; have it before you that he understands just what you have said. – *Indiana School Journal.*

TEACHING COMPOSITION.

1.—*Directions for Teachers.*

1. When you take charge of a class not previously trained in composition-writing, set the pupils to copying short reading lessons. Let them exchange papers, and, with open book, correct one another's exercises with reference to spelling, punctuation, capitals and paragraphs.

2. Next, let them write out an abstract of some familiar story, told or read to the class.

3. When you require a formal composition, select a subject for the entire class, and give the necessary directions, explanations and suggestions. Select subjects about which your pupils know something. Never abstract subjects, such as happiness, or knowledge, or virtue.

4. Train your pupils to correct one another's compositions, and *require them to re-write corrected exercises.*

5. "I call that the best theme, which shows that the boy has read and thought for himself; that the next best which shows that he has read several books and digested what he has read; and that the worst which shows that he has followed but one book, and followed that without reflection."—[*Thomas Arnold.*

6. "Training in the appropriate use of the English language ought not to be limited to the mere grammatical exercise of composing sentences. Even in our common schools it should extend to the cultivation of taste by which neat as well as correct expression is acquired as a habit"—[*Russell.*

7 "I hold as a great point in self-education that the student should be continually engaged in forming exact ideas, and in expressing them clearly by language. Such practice insensibly opposes any tendency to exaggeration or mistake, and increases the love of truth in every part of life. Those who reflect upon how many hours and days are devoted by a lover of sweet sounds to gain a moderate facility upon a mere mechanical instrument, ought to feel the blush of shame, if convicted of neglecting the beautiful living instrument wherein play all the powers of the mind."—[*Prof. Faraday.*

8. "The study of rhetoric in high schools ought not to be completed in fourteen weeks. It should be continued through the entire course, at the rate of one lesson a week, because it relates to language, which is the instrument used by teacher and pupil throughout the course. This method will give time to write the exercises assigned in works on rhetoric, and will not interfere with other studies relating to the English language."—[*George W. Minns.*

2.—*Directions to be Given to Pupils.*

1. Think about the subject and make some plan of arrangement.

2. Do not run together a long string of statements, connected by *ands, buts* or *ifs*, but make short sentences.

3. After writing the first draft, examine it critically, cross out superfluous words or phrases, interline, correct, and then re-write.

4. In correcting, examine with reference to: 1. Spelling; 2. Capitals; 3. Punctuation; 4. Use of words; 5. Constrnction of sentences.

5. Acquire the habit of crossing *t's*, dotting *i's*, and punctuating, as you write.

6. Do not put off writing until the day before you must hand in your composition.

In school-work true principles must underlie correct practice; just as truly as good soils underlie the production of good grains and fruits. —*Education.*

There is no harm, but on the contrary there is benefit, in presenting a child with ideas somewhat beyond his easy comprehension. The difficulties thus offered, if not too great or too frequent, stimulate curiosity and encourage exertion.—*Sir Walter Scott.*

CONVERSATION IN A GRAMMAR CLASS.

Teacher.—Will you give me a rule for the agreement of a verb in a relative clause in which the relative is the subject, and has for its antecedent predicate noun referrring to a subject in the first or second person?

1*st Pupil.*—I do not understand the question. Will you please give me an example?

T.—Should we say "I am the general who commands here," or "I am the general who command here?"

1*st P.*—The latter.

T.—Why?

1*st P.*—Because the subject of *command* is *who*, referring to *general*, a predicate noun denoting the same person as *I*.

T.—Should we say "I am he who am going to do this" or "I am he is going to do this"?

2*nd P.*—The latter. Because *who* refers to *he*, pronoun in the third person.

T.—Passing this for the present, what rule have you learned for the agreement of the pronoun with its antecedent?

3*d P.*—It agrees in person, number and gender.

T.—Is that true of all pronouns?

3*d P.*—The grammar says so.

T.—How do you know the antecedent of an interrogative pronoun?

4*th P.*—By looking in the answer.

T.—In the following, "Who comes here? Ans. I am coming," what is the antecedent of *who?*

4*th P.*—The pronoun *I*.

T.—How can the form *comes* agree in person with *I?*

4*th P.*—That's what the grammar says anyhow.

T.—Passing this for the present, should we say, "Whosoever thou art who *comest* here" or "Whosoever thou art who *comes* here?"

5*th P.*—The first, because the antecedent of *who* is *thou*.

6*th. P.*—The second, because the antecedent of *who* is *whosoever*, a predicate pronoun in the third person.

T.—Passing this for the present, tell me what the subject of the verb is in the following sentence:—"It is pleasant to see the sun."

7*th P.*—"To see the sun," for *it* is a mere expletive, serving to throw the subject after the verb.

T.—In the following sentence:—"It was not he that did it," what is the subject?

8*th P.*—The pronoun *he*, *it* serving the same purpose as before.

T.—Are you sure?

8*th P.*—That's what our "Analysis" says.

T.—How is it in the following: "It is I?"

9th *P.*—The pronoun *I* ought to be the subject, but I don't see how it can be.

T.—You may look up all these points for to-morrow.—*Illinois School Journal.*

BE A GOOD READER.

There is one accomplishment in particular which I would earnestly recommend to you. Cultivate assiduously the ability to read well. I stop to particularize this, because it is so very much neglected, and because it is so elegant, charming and lady-like an accomplishment. Where one person is really interested in music, twenty are pleased by good reading. When one person is capable of becoming a good musician, twenty may become good readers. Where there is one occasion suitable for the exercise of musical talent, there are twenty for that of good reading. The culture of the voice necessary for reading well, gives a delightful charm to the same voice in conversation. Good reading is the natural exponent and vehicle of all good things. It is the most effective of all commentaries upon the works of genius. It seems to bring dead authors to life again, and makes us sit down familiarly with the great and good of all ages. Did you ever notice what life and power the Holy Scripture has when well read? Have you ever heard the wonderful effects produced by Elizabeth Fry on the prisoners of Newgate by simply reading to them the parable of the Prodigal Son? Princes and peers of the realm, it is said, counted it a privilege to stand in the dismal corridors among felons and murderers merely to share with them the privilege of witnessing the marvelous pathos which genius, taste and culture could infuse into that simple story. What a fascination there is in really good reading! What a power it gives one! In the hospital, in the chamber of the invalid, in the nursery, in the domestic, in the social circle, among chosen friends and companions, how it enables you to minister to the amusement, the comfort, the pleasure of dear ones, as no other art or accomplishment can. No instrument of man's devising can reach the heart as does that most wonderful instrument, the human voice. It is God's special gift and endowment to his chosen creatures. Fold it not away in a napkin. If you would double the value of all your other acquisitions, if you would add immeasureably to your own enjoyment and to your power of promoting the enjoyment of others, cultivate with incessant care this divine gift. No music below the skies is equal to that of pure silvery speech from the lips of a man or woman of high culture.—[*Prof. John S. Hart.*

AN IDEAL COUNTRY SCHOOL-TEACHER.

As the character of a teacher in the country may tell more directly on the pupil than elsewhere, let us see what qualities are most needed. Justice should be its basis. No teacher ever rules well by caprice. A wrong deed may not call for excessive punishment, but the punishment should be sure. Do not let one pupil suffer while another goes free. Nevertheless, owing to the different temperaments of the scholars, the same act may be a more serious fault in one scholar than in another, and may call for different treatment. So it is best to let it be clearly understood that the teacher will use his own discretion in punishment. Be sure, however, that that it is discretion, and not partiality or carelessness which governs. The pupils may not understand the difference, but they will soon feel it.

Good temper should come next, perhaps. Sharpness rasps the pupil's nerves, and causes a loss of intellectual as of moral force. Perhaps even an ideal teacher cannot always be inwardly good-tempered, and let us use the largest charity in judging the worn and tired actual teachers; nevertheless the ideal remains the same, —an unruffled and pleasant exterior.

If a high sense of honor could be cultivated in boys and girls, the world would soon be a different place to live in. Whether in the business community or the domestic circle, new forces would be set in action. There are many ways of inculcating honor, but none so sure, slow as its works may be, as for the teacher to be thoroughly honorable in dealing with the pupil. A new teacher blushes to own ignorance. perhaps but unconsciously gains a moral power by the honest admission of it. I do not mean that a teacher should pub lish his own failings; but that no clever subterfuge which deceives the pupil can have half the educational value of entire truthfulness.

Teachers of country schools should be emphatically ladies and gentlemen. The finer their manners the better, though these should rest upon a substratum of something besides manners. Children catch a trick of manner very quickly. An untidy teacher has a far more unwholesome effect upon pupils than one who works out cube root with difficulity. It would even be a good thing if the teacher

understood all the refinements of etiquette, provided that nothing more important had been sacrificed in acquiring them ; but, in that case there should be sufficient judgment not to urge these niceties upon children whose parents would grumble at them. The teacher must have tact to see that many kinds of knowledge must be withheld until the pupils themselves begin to reach out for them.

A social disposition is of great value to a country teacher. To know the habits and wishes of the parents is a great help in instructing the children. To be liked and sustained by the parents gives one power over the children. To be useful and entertaining in society gives one the support of the whole community. If you are admired and loved by those your pupils admire and love, they are eager to follow out your plans instead of being goaded to it ; and the more widely you exert among the people outside your school the same influence you exert in school, so much the more powerfully the combined energy of the whole village will work toward the ends you consider valuable.

PROMOTIONS.

It can never be a kindness to advance a scholar prematurely. The great lessons of thoroughness and industry are seldom learned in a school where good scholarship as a condition of promotion is not rigidly insisted upon, and if it could be shown that the matter of grading had no influence upon the formation of character, it would still be true that the discipline and culture gained by repeating half-learned studies is always better than a premature advancement to branches for which the pupil is unfit. Great injury is often done to children by their parents or teachers in permitting them to discontinue elementary or fundamental subjects of study, before they have fairly mastered them. Nothing is more valuable in education than the habit of painstaking perseverance. He who has become accustomed, while a school boy, to master difficulties and persevere till his task is accomplished, can hardly fail to make a successful and useful man. In all possible ways the school should inculcate habitual thoroughness and persistent application, and one of the ways in which this important lesson may be taught, is by insisting that real merit, as evinced by good scholarship, shall be an invariable requisite to promotion.

Again, each study is an integral part of the curriculum and essential to its completeness. Different branches exercise and improve different faculties. Each gives a certain tone and direction to the intellectual training, and the result of these various forces, blended with native endowment, is the mental power which each graduate possesses. If culture and ability result from school work and influences, it must follow that if any part of these influences be withdrawn, the culture will, to that extent, be deprived of its symmetry and power. In general, academic students cannot safely be allowed much option in the arrangement of their course of study. In most cases it will be found that the branch for which such scholars manifest a distaste, is the very one that is needed to develop faculties which are yet weak. To permit them at so early an age to concentrate their interest and effort upon favorite studies, will necessarily produce an unsymmetrical development. The world is already too full of unbalanced minds. Men of sound judgment, whose faculties act in harmony and with vigor, are wanted ; not those who see all subjects in a distorted light. For this reason and because the knowledge afforded by each subject is useful in itself, we insist that scholars shall do satisfactory work in each study.

Students who are "kept back" not only regret what seems to them a loss of time, but also feel disgraced to go into a lower class. This feeling may be natural, but it is clearly a mistake and ought not to stand in the way of the real interests of the scholar. It is not strange that some should fall behind on account of poor health or immaturity. All do not learn with equal facility, and not unfrequently a person whose mind acts slowly will prove to be capable of excellent attainments in the end. Nor should it be considered an evidence of superiority that one's mental powers develope less rapidly. But even if this were the case and if the pupils were not benefited by repeating a year of unsatisfactory work, it would still be right and necessary to enforce a grading of the school. The greatest good of the greatest nnmber would require that a scholar who was not able to keep up should be transferred to a lower class, and no one will seriously argue that the standard should be lowered. It will rather be our aim to steadily advance our standard of scholarship.—*John E. Bradley, Principal Albany (N. Y.) High School.*

HEALTH IN THE SCHOOL.

Health in school-children is the first condition of good intellectual work. This principle is often disregarded by our most conscientious teachers, and the neglect of the physical side of the child's nature often leads to the most disastrous results. In the first place the teacher should inquire into the bodily ability and vitality of his pupil, and learn at the outset as much as possible of his temperament, tendencies, and temptations. A sound body must possess a sound mind. Of forty children no two have the same strength of mind, size of lungs, and working-force of the brain, condition of nervous system, quality of voice, gait, address, etc., no more than any two resemble each other in the form and the features of the face. Here is a boy with the lungs of a stentor ; there one is flat chested, with flabby muscles and weak constitution. Here is a girl with rosy cheeks and vigorous mental action ; there another, pale, almost bloodless in cheek, heart, and brain. All are in the Arithmetic class. The same lesson is assigned to the four. Is it probable that all will grasp the principles and their application equally quick, or express them with equal clearness and accuracy ? Not at all ; and the teacher who attempts the impossible either in restraining the strong to meet the capacity of the weaker, or of spurring on the weak to equal the stronger, is doing an injustice to the physical and intellectual natures of both, and should be punished by the Society for the Prevention of Cruelty to Children. The first purpose of the teacher should be to preserve the ruddy cheek and the strong muscle of the strong, and, if possible, by the best conditions of study, exercise, etc., to make them more vigorous and healthful ; and on the other hand a more important duty rests on the teacher relating to the over-nervous, bloodless, and less-vital children. To tax these to their utmost is cruelty, and to cause their bodies to weaken under study, is a costly and expensive performance. That is the best school where the dull ones have the best chance, because they need it the most, and where the weak ones can get a better hold on life, its vital forces and supports, that they may not fail in the supreme hour of life's trials and temptations. To equalize as far as possible the conditions of healthy manhood and womanhood, teachers should study to educate the child physically, by proper light, heat, ventilation, exercise, and study ; by removing all preventable causes of disease from the school-room, and watching lest contagious or infectious diseases come within the school premises. Those who can graduate healthy children with medium attainments are superior instructors of youth to those who press the intellect at the expense of the bodily powers, and who send out into the world a class of physical weaklings, top-heavy, to be turned upside down in the world's struggle.—*The Public School.*

Notes and News.

ONTARIO.

Mr. J. D. McIlmoyle has been appointed head master of the Murray Street separate school, Peterborough, in the place of Mr. M. O'Brien who has accepted a similar position in the Lindsay separate school. Miss C. Leonard is engaged as first assistant and Miss E. Hurley retains her place as second assistant. Miss Ellie T. Neagle is teacher of the first ward school. Mr. McIlmoyle is reported to be a teacher of experience and considerable ability and good results are expected from his appointment.

The attendance at Newburgh high school, David Hicks, B.A., head master, is larger now than it has been for some years. Mr. Anson Aylsworth has been appointed assistant teacher.

The Newburgh school board decided to place the third and fourth book classes of the public school under the charge of Mr. Tinsdale whose salary has been increased to $600 in consequence of the additional work.

G. A. Smith, B.A. has received the appointment of science master in Lindsay high school, W. E. Tilley, M.A., head master.

London collegiate institute has been favorably reported on by J. E. Hodgson, M.A., high school inspector.

Mr. J. H. Allin, of Orono, has transferred his services to S. S. No. 3, Darlington, Ballyduff. He has won warm encomiums from the residents of Orono for his ability as a teacher and his kind, courteous demeanour.

Dr. J. A. McLellan, high school inspector, has made a report on the Perth collegiate institute, in which he states, "I am of opinion that the school suffers from the frequent changes in the staff. There cannot be any fair degree of perseverance so long as the board continues to pay assistants but little more than half the amount they pay the head master. I believe the salaries of the assistant masters are lower than those paid in any other collegiate institute. Such a man as Mr. Jamieson (English Master) is certainly very poorly renumerated at $700."

Mr. Ballantyne, M.P.P., spoke some friendly words for teachers, in the discussion on the item in the estimates for the superannuated teachers' fund, last month. He concluded his remarks by saying that teachers were not well paid, and he thought that those entering the profession would not care to be put on the superannuation fund, but would prefer to spend their money as they pleased. He believed the reason of the present scarcity of teachers was owing to the increased severity of the qualifying examination, and hoped that if salaries were not to be raised, there would be no further attempt to make the standard higher.

A case of considerable interest was heard at Plattsville last month before Jared Kilborn, J. P., and David Peat and John Shearer as associate magistrates. The plaintiff, David Sillers, teacher of S. S. No. 5, in the township of Blandford, complained that Wm. Brash did on the 18th ultimo, assault the teacher, and use profane and indecent language, and interfere with the order of the school. The case was fully substantiated by James Smith aged 16, Thos. Forbes aged 15, and Robert Hughes, aged 13 years. The defendant put in a defence, but lost the case. Find $4 and costs, amounting to $11.50.

Dr. McGuigan haa been appointed professor of botany at the Western university.

Mr. H. W. Hoover, who, a short time since was principal of Hagersville union school, has been appointed head master of the Danville, P. Q., graded school. He possesses many qualities which eminently fit him for the onerous and responsible position he is about to fill; and the members of the school board, and other friends in Danville, are to be congratulated in having secured Mr. Hoover's services, as he is reputed to be a diligent and successful teacher.

Mr. Tait, who came to Highland Creek so highly recommended from the Port Union school, is giving good satisfaction, as was expected. He has already won the esteem of the pupils, and no doubt his labors as an earnest instructor will be as much appreciated here as in his late school. and he will assuredly gain the same respect in this section as was so manifestly shown by the very handsome memento and address he was presented with at his departure from Port Union.

Demill college for ladies, Oshawa, opened last week with a good attendance.

The attendance in the different departments of the Brampton model school, of which Mr. A. Morton is head master, is very good. Sixteen teachers in training were examined at the close of the term and all passed. Mr. Welsh, who was head master of the model school, has been appointed assistant in Guelph high school.

Some improvements and alterations have lately been effected in Brampton high school, to meet the demands of a largely increased attendance, and additions have been made to the staff of teachers. The head master, Alex. Murray, M.A., takes senior mathematics and classics; D. S. Patterson, B.A., (Toronto Univ., gold medallist), late head master Chatham high school, takes English and modern languages; J. Hume, B.A., (Queen's Univ.) instructs the juniors in science and mathematics; and T. Blain, B.A., (Toronto Univ.) is the assistant classical master. The pupils have nearly completed arrangements for the formation of a Literary Society in connection with the high school and we hope to be able to report progress in this matter very shortly.

MANITOBA.

Four additional teachers have recently been employed for the Winnipeg schools, to enter upon their duties on the first Tuesday in February.

The examination of the pupils of the normal school is now in progress, the examiners being the superintendent of education, the inspector of city school, the principal, and the principal teachers in the city schools.

A collegiate department has been opened in connection with the Portage-la-Prairie schools with Silvanus Phillips, B.A., lately from Ontario, as its teacher. There are now eight teachers at Portage-la-Prairie.

The authorities of St. John's college have just signed a contract for the erection of the north wing of their new college and the warden's residence. The sum to be paid is $46,500, and the work is to be completed by the end of December next.

Messrs. Heber Archibald, B.A., of the firm of Archibald Howell & Vivian, and W. R. Mulock, B.A., of the firm of Bain, Blanchard & Mulock, both graduates of Toronto university, have been appointed members of the council of St. John's college, and the authorities of Manitoba college have appointed John F. Bain, B.A., of Queen's university a member of their college council.

The Rev. A. L. Parker, M.A., fellow of St. John's college was admitted to the priesthood on Sunday, January 7th, by the most Rev. the metropolitan of Rupert's Land.

An English society has lately promised £1000 stg. towards the endowment fund of St. John's college.

NOVA SCOTIA.

Mr. W. S. J. Davidson, teacher of the advanced department of the Clementsport (Annapolis Co.) school was found dead in his bed on the morning of Thursday, December 28th.

Dr. Honeyman, curator of the provincial museum, has completed the Nova Scotia collection of marine invertebrates and small fishes for the great fishery exhibition in London. Dr. Honeyman holds a high rank among our Canadian naturalists.

The executive committee of the provincial educational association met in the committee room of the legislative council chamber, Halifax, on the 3rd ult. The chief business of the meeting was the preparation of a programme of exercises for the next annual session of the association. It is understood that very satisfactory arrangements were effected. Several members of the committee strongly urged that Halifax should be chosen as the place for the ensuing meeting, This point was not finally decided.

The report of the associated alumni of Acadia college for 1882 is an interesting volume. Its preface describes with some minuteness an important change which has recently been effected in the constitution of the governing organism of the college. This is henceforth to be known as "the Senate of the University of Acadia College." The functions of the senate pertain chiefly to the internal management of the college. The senate is composed of the Faculty, Fellows and Scholars of the university. The *Fellows* are six graduates so appointed by the governors on nomination of the Faculty; the *Scholars*, twelve graduates so appointed by the governors on nomination of the associated Alumni. The Fellows are *ex-officio* members of the Board of Governors. A large part of the report is occupied with the address delivered at the service held in June last to commemorate the labors and achievements of the late Dr. Cramp.

The committee of the provincial educational association deputed to consider further the subject of a uniform course of study for high schools and high school departments, also met at Halifax on the 3rd and 4th ult. Several members of the committee were unable to be present. The following were in attendance: The principal and professor of the provincial normal school, the mathematical and English masters of the Halifax high school, principal McKay of Picton academy, inspectors Roscoe and McKenzie, and Messrs. Denton, Owen and Lay, principals of the county academies at Kentville, Lunenburg, and Amherst. It is hoped that the outcome of this conference will be a course capable of being effectively carried out in our advanced schools.

The "Acadia Science Club" previously referred to in these notes has started a scientific monthly called *The Acadian Scientist*. The Club is endeavouring to foster the study of science by prescribing for its members a course of scientific reading, and by founding examinations in certain subjects. The *Scientist* contains some interesting articles. The following is the directorate of the Club: *President*, A. E. Coldwell, A.M., instructor of natural science, Acadia college, Wolfville, N. S.; *Directors*, *Physiology*, C. W. Roscoe, A.M., inspector of schools, Wolfville, N. S.; *Geology*, Alexander McKay, Esq., mathematical master in Halifax high school, Dartmouth, N. S.; *Botany*, A. H. McKay, B. Sc., principal Pictou academy, Pictou, N. S.; *Natural Philosophy and Astronomy*, Prof. A. E. Coldwell, A.M., Wolfville, N. S.; *Chemistry*, J F. Godfrey, Esq. principal Windsor academy, Windsor N. S.; *Zoology*, A. J. Pineo, A. B., principal high school, Wolfville, N. S.; *Mineralogy*, S. K. Hitchings, B. Sc., state assayer and principal high school, Biddeford, Maine; *Secretary and Treasurer*, A. J. Pineo, A. B., Wolfville, N. S.

Alexander McLeod, Esq., a merchant of Halifax, recently deceased, bequeathed the residuary interest of his large estate to Dalhousie college. The bequest is estimated to be of a minimum value of $150,000, and may not improbably amount to nearly double of that sum. The only condition attached thereto is that the college must continue non-sectarian in its character. The direct object is to enable the Governors to establish three additional professors.

QUEBEC.

Bishop's college school, Lennoxville, of which Rev. Isaac Brock, M.A., is the rector, has largely increased in attendance this term. This school and the college are situated in one of the most beautiful and healthy localities in the Province, and from what we saw of the interior arrangements of the school, there is nothing neglected which can tend to the comfort and physical welfare of the pupils.

The Young Ladies' college at Dunham, under the efficient superintendance of Mrs. Holden, principal, has nearly doubled its attendance. The closing exercises in December were so creditable that considerable interest in them was manifested in the neighbor hood.

Mr. A. D. McQuarrie is doing good work in Buckingham school and his efforts are well appreciated in the locality. He evidently is "abreast of the times," and his school is a credit to him.

There is at present quite a large attendance in the Industrial college, Lachute, of which Mr. C. S. Holliday is head master. Mr. T. Haney, the English master, is spoken of as an indefatigable, successful teacher.

School matters in Aylmer, (Que.) are greatly improved since the appointment of Mr. Raleigh J. Elliot as principal, who is ably assisted by Miss McLean. If a better school building could be obtained it would leave little else to be desired there in educational matters.

The school commissioners of Danville have built a commodious, brick school house, capable of accommodating 200 pupils, in place of the academy which was burned in the conflagration that devastated a large portion of the town last year. A head master from Ontario has been appointed, and classes will be formed for three assistant teachers, by which means the commissioners hope the town will be second to no other of a similar size in the province in educational advantages.

It is a pity that a larger amount of departmental aid cannot be given to the Magog model school, as the work done in it by the principal, Mr. W. H. Mayo, and his assistants, is acknowledged to be most satisfactory. The school building is a credit to the town in external appearance and interior arrangement, and the school commissioners take much pride in maintaining its good condition.

The academy at Stanbridge East is making good progress under the head mastership of Mr. Alson Burnett.

Mr. J. McIntosh has a very large attendance in the Granby high school and his efficient labors are much appreciated in the town. In the district school Miss McLean, who is a thoroughly progressive teacher, is doing good, earnest work. Some important improvements in school arrangements are spoken of as contemplated by the school commissioners, which if carried into effect will result in a better plan for advancement to the high school, and introduce the benefits of the graded system.

Mr. R. M. Campbell has greatly improved the high school, at Three Rivers, since his appointment, and his efforts have met with every encouragement on the part of the school board. The attendance has increased over 300 per cent, and the greatest satisfaction is felt at the result of his judicious and efficient management. We are pleased to know of his success.

REVIEW.

Our Little Men and Women—*D. Lothrop & Co., Boston.*—Among the large number and great variety of illustrated periodical literature for juveniles this beautiful monthly magazine occupies a prominent position. It is finely illustrated and contains some attractive stories which, in the number for January (vol. iv. No. 1), are descriptive of Christmas scenes in "Merrie" England, Germany, Egypt, and Australia. The geographical coloring thus given tends to encourage a taste for a branch of study generally more useful than interesting, and makes this class of supplemental reading serve a double purpose. Price $1.00 a year.

MAGAZINES.

The North American Review for February opens with a symposium in which six prominent theologians, representing as many religious denominations, give expression to their views upon the question of the "Revision of Creeds." Prof. Alexander Winchell, in an article entitled "The experiment of Universal Suffrage," institutes a profound inquiry into the essential conditions of stable popular government, which he finds to be, substantially, virtue and intelligence; but the conditions, he maintains, are absolutely unattainable under our existing political system, where an electorate either ignorant or vicious, or both, by the mere force of superior numbers practically nullifies the suffrages of the better and wiser portion of the people, whose right to control the government of the commonwealth is grounded in the very nature of things. Bishop McQuaid writes of "The Decay of Protestantism," and in an essay to prove his thesis, makes a very adroit use of the admissions of protestant writers. "The Political Situation" is the joint title of two articles, the one by Horatio Seymour, the other by Geo. S. Boutwell, who offer their respective views upon the causes of the recent overthrow of the Republican party. An article by Dr. D. A. Sargent, on "Physical Education in Colleges," treats a subject of prime importance to the welfare of the youths in our higher educational institutions. Finally, there are two articles on "The Standard Oil Company," Senator Camden of West Virginia defending that corporation against its assailants, and John C. Welch setting forth the reasons for condemning it as a dangerous monopoly. Published at 30 Lafayette Place, New York.

GLEANINGS.

For love is ever the beginning of knowledge, as fire is of light.—*Carlyle.*

Of all consolations, work is the most fortifying and the most healthy, because it solaces a man not by bringing him ease, but by requiring effort.—*Taine.*

When the Greek Aleximander was told that the very boys laughed at his singing, he replied, 'Then I must learn to sing better.'

We of old Miletus have been always taught that words should be subordinate to ideas, and we never place the pedestal on the head of the statue.—*Landor.*

Indignation may often be averted, offence avoided, or, good will secured, by the choice of smooth words; or the reverse effect may be produced by the use of opprobrious epithets.—*Schuyler.*

What is done for effect is seen to be done for effect; what is done for love is felt to be done for love. A man inspires affection and honor, because he was not lying in wait for these.—*Emerson.*

How few of us often stop to think of the low ends aimed at in education, or the imperfect methods, or how little we really know about the true philosophy of teaching. In teaching, labour is the inexorable condition of success. To be good teachers, we must be good learners,—not satisfied to tread forever the tread-mill of routine, get no further, and rise no higher. We must knock at the door of knowledge before it will be opened.—*A. S. Abbott, Iowa.*

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We have already had repeated occasion to speak highly of the Educational Series of which this book is one. The "Speller" is a necessity; and we have seen no book which we can recommend more heartily than the one before us. We invite to it the attention of our Educational authorities.—*Presb. Witness, Halifax.*

Good Print.

The "Practical Speller" is a credit to the publishers in its general get up, classification of subjects, and clearness of treatment. The child who uses this book will not have damaged eyesight through bad print.—*Bowmanville Observer.*

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Spelling Instruction on a new basis.

The author claims that the present spelling books now in use in schools are radically defective, and, in their stead, supplies one which is free from present defects, and which supplies spelling instruction on a new basis.—*Perth Courier.*

A Necessity in every School.

Having carefully examined this little book, we have no hesitation in saying that it is admirably adapted to the purpose intended. Until we adopt the phonetic mode of spelling which so many distinguished educators advocate, a book like this one is a necessity in every school.—*Napanee Standard.*

OPINIONS OF SCHOOL INSPECTORS AND TEACHERS.

Great Assistance. D. JENNINGS, Prin. P. Schools, Uxbridge.

The Practical Speller is an excellent book, whether we regard its matter or its arrangement. It contains just such a course of spelling as an experienced and practical teacher would put his classes through. It will afford great assistance to inexperienced teachers, who will find in it very useful hints on teaching spelling, a subject hitherto surrounded by many difficulties.

An Excellent Compendium. ALEX. MCRAE, Prin Academy, Digby, N.S.

I regard it as a necessity and an excellent compendium of the subject of which it treats. Its natural and judicious arrangement well accords with its title. Pupils instructed in its principles, under the care of diligent teachers, cannot fail to become correct spellers. Its great value will, doubtless, secure for it a wide circulation. I have seen no book on the subject which I can more cordially recommend than "The Practical Speller."

Supply a Want Long Felt. JOHN JOHNSTON, I.P.S, Belleville.

The hints for teaching spelling are excellent. I have shown it to a number of experienced teachers, and they all think it is the best and most practical work on spelling and dictation ever presented to the public. It will supply a want long felt by teachers.

Plan Ingenious. J. S. CARSON, I.P.S., Strathroy.

The Practical Speller is a superior little work, and should find its way into every public school. The plan is ingenious, and for aught I know may be original.

Very Happy Arrangement. W. J. HENDRY, Pr. Co. Mod. School, Yorkville.

The plan is an excellent one. The groups of words are nicely arranged and graded, so that common words, or those that are most frequently used, are to be learned first. It is a very happy arrangement that of the reviews at the end of each part, and the selection of extracts containing sentiments of moral worth, and possessing literary excellence, to be used for dictation and also for memorizing. On the whole it is the best I have met with.

Practical and Fresh. E. H. OWEN, Prin. Academy, Lunenburg, N.S.

The preface is capital. I am charmed with the practicalness and freshness of the first four parts. I have at least a dozen different treatises on spelling, and not one of them comes up to my idea of what a spelling-book should be as yours does.

Admirably Adapted. COLIN W. ROSCOE, I P.S., Wolfville, N.S.

The arrangement and grading of the different classes of words I regard as excellent. Much benefit must arise from committing to memory the "Literary Selections." The work is admirably adapted to our public schools, and I shall recommend it as the best I have seen.

Preface Endorsed. N. M. CAMPBELL, H. M. Co. Elgin Model School.

I am well pleased with it. I endorse every word in the preface. Would like to see it introduced into every school.

High Character. G. D. PLATT, Co. School Insp., Picton.

Having looked through Gage's Practical Speller, and being an unbeliever in the doctrine that oral spelling is a useless exercise, I find much in the book to merit commendation. I am particularly pleased with the arrangement of exercises and the choice of words in everyday use, as well as the high character of many of the literary selections. As a hand-book, both for oral spelling and dictation, the book merits a place in every school.

Decided Improvement. W. F. RITTENHOUSE, St. Catharines.

I am favorably impressed with the plan of the work, while the typography is excellent. I think it a decided improvement upon the present text-book.

A General Favorite. GEO. E. CROSSCUP, B A., H.M. M.S. Fredericton, N.B.

It possesses, in a marked degree, the necessary elements of such a work. There are several features, notably the well-arranged lists of words and names in common use, with the accompanying exercises for review, and the choice Literary Selections, which must make it a general favorite, and materially aid in securing for it a place among our standard text-books.

Preferred to others. W. P. SHAFFNER, Prin. Pub. S, Wolfville, N. S.

I am much pleased with the general scope and arrangement of Gage's Practical Speller as a text book for our common schools. I propose to introduce it into our schools in preference to others examined.

Complete. J. F. GODFREY, Prin. P Schools, Windsor, N.S.

I have examined the Practical Speller and consider it excellent. The arrangement is complete. I handed the book to several of our teachers for their inspection. They all wished it introduced into the school as soon as possible.

Admirable Work. HOWARD MURRAY, Prin. Academy, New Glasgow, N.S.

I consider it an admirable little work The chapter on Similar Sounds is a particularly valuable one.

Collection of Gems. M. L. FIELDS, Prin. Graded School, Bridgetown, N.S.

I have carefully examined the little book, and must express my hearty approval both of the natural arrangement and contents of it. Your Practical Speller at once relieves me from doubtful selections, and gives me, in convenient *pocket* compass, the groups of words which I might spend much time in collecting. Your Hints on Dictating and Examining are valuable. I can commend them from actual practice. Perhaps the most pleasing feature of this little book is the collection of Gems in part 5

Well Prepared. H. HUBBARD, I. P. S., Sherbrooke, Que.

It seems to me to be well prepared, and well adapted for general use as a manual, particularly in dictation exercises.

Classing of Words. E. J. LAY, Prin. Academy, Annapolis, N.S.

I am much pleased with it. I like the plan of grading the lessons, and also the classing of words pertaining to certain trades, professions, etc. I have found it very useful in dictation exercises. Have recommended it to several teachers.

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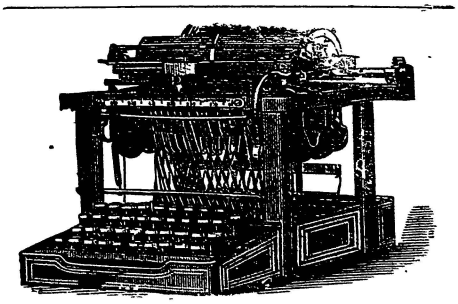

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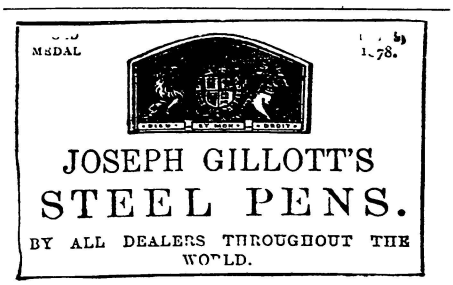

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In compiling this Primer of Geography, the aim of the editors has been, not to produce a literary work, but to present, in a simple systematic form, all the material necessary for the various *promotion, entrance, intermediate,* and *other official* examinations.

To overcome the great difficulty of preparing students for these examinations, some masters throughout the province have taken the ordinary e xt-books in use, and from the multitude of sentences, selected what they deemed necessary to be learned by the pupil. Others again have used the blackboard or the dictation book for the facts to be memorized. These plans are objectionable, as the one does not present the words from the text-book so as to be remembered readily, and the others necessitate the loss of much valuable time. Further, the pupil does not recognize the word in its written form, and thus the spelling is not taught. Of still more importance, and what of itself should commend this work to teachers and the public generally, is that *the exercise book required for the dictation exercises* in Geography alone *costs as much as this Primer.*

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FROM PROMINENT EDUCATIONISTS:

DAVID P. CLAPP, B.A., P.S.I., North Wellington.

It is certain to go into general use in this county as a home lesson book.

Such a work has been greatly needed in our schools, and I know of several head masters who, after seeing your announcement of it in the daily papers, put off introducing any text book on geography this term until they had had an opportunity of examining it. It meets with my entire approval, and it is certain to go into general use in this county as a home lesson book for our pupils. I cannot speak too highly of its general arrangement, maps, contents, price, etc.

G. W. JOHNSON, H. M., Model School, Hamilton.

In many important features it is far superior to anything of the kind now in use.

In size it is convenient, in price very low, in arrangement and method just what we want. The maps are neat and clear, full but not overcrowded, and placed, as they should be, apart from the letter-press. The railway map (a new feature) and the sets of examination papers will be very useful to both teachers and pupils.

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Will certainly fill a void felt by many teachers.

The Geography which I had the privilege of examining will certainly fill a void felt by many teachers preparing pupils for either entrance or intermediate examinations.

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sell on its merits, and needs no recommendation.

"Gage's Map Geography" is just the thing teachers have been waiting for, and I am sure it will be heartily welcomed by everyone.

Society St. Mary of Loretto, Sup. Congregation de N. D., Peterboro'.

Geography just what was wanted.

W. J. GAGE AND COMPANY,

TORONTO AND WINNIPEG.

The Canada School Journal.

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The Canada School Journal

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CANADA SCHOOL JOURNAL HAS RECEIVED

An Honorable Mention at Paris Exhibition, 1878.
Recommended by the Minister of Education for Ontario.
Recommended by the Council of Public Instruction, Quebec.
Recommended by Chief Superintendent of Education, New Brunswick.
Recommended by Chief Superintendent of Education, Nova Scotia.
Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

A THIRD HIGH SCHOOL INSPECTOR.

During the past year, we have heard many times from high school officials, and have seen many remarks in the press, to the effect that two inspectors would never be able to overtake the extraordinary amount of work thrown upon their hands. To bring their duties at all within reasonable bounds, the Minister was obliged to announce that henceforth the intermediate examination would take the place of one semi-annual inspection. We were sure that this would be found unworkable and unpopular, but refrained from criticism in order to give time for mature opinion. We are now prepared to state that there is throughout the country but one view entertained with regard to this substitution of impersonal examination for personal inspection.

In the first place, it is an examination of a fraction only of the whole school. No matter how excellent the work done above or below the standard, this examination cannot possibly give any account of it. Then, with respect to those who are not quite well enough prepared to pass the examination, the report of their *failure* is not an equivalent for the personal examination by the inspector, which in the great majority of cases would enable him to perceive that those students had been making good use of their opportunities, and lead him to commend their industry while he encouraged them to push forward into the regions beyond. A visit of this kind does incalculable good both to students and teachers, even in the rare cases in which the inspector finds it necessary to point out defects and shortcomings. On the spot, he can make allowance for special difficulties, and can give credit for *all* the work done. He can consult with teachers and trustees; and a few words of friendly counsel, admonition, or encouragement, are many times more valuable than a dry report, which is quite certain to show that at least 40 or 50 per cent. of the candidates have failed to satisfy the examiners in some one of the fifteen or twenty subjects of the intermediate examination. The youngest pupils in the high schools could testify that the arrival of the inspector is a much more joyous event than the solemn breaking of the seals on the examination papers, which is to them suggestive of the scenes described in the Apocalypse.

It is agreed on all hands that the inspector should be able to spend at least a whole day in each school twice a year; *a whole day*, so that he may be able to handle a considerable number of the classes himself; may have opportunity to see all the teachers give a specimen of their style of teaching; may have time to catch fully the spirit and atmosphere which pervade the school; *twice a year*, so that he may see the whole school, which is not the same in autumn as in winter, neither in regard to numbers nor in regard to quantity and quality of work. We all know that there is a very large influx of students in January who leave in June. Under the present arrangement, the inspector will never see this portion of the high school, and the written examinations can give only a very feeble or indeed a very false impression of their progress.

Even while three inspectors were employed, their visits were often made on Saturdays, and were often rather hurried by the necessity of catching trains in order to keep abreast of their work. As members of the central committee, and examiners of the normal schools, directing the entrance examinations, and carefully examining reports, the inspectors have much tedious work, which curtails very seriously the time available for visiting schools. Now that the senior inspector has very properly been appointed director of the normal schools, it is not reasonable to suppose that he can do as much inspection in high schools as formerly, so that practically we are left with only one inspector, a position of affairs twenty years behind the times.

Long ago, Prof. Young, in his able report, pointed out the necessity for thorough inspection. Since that time our schools have nearly doubled the number of their students, and natural science has taken a prominent position within their walls, and, of all subjects, this demands a personal examination. The science papers set at the intermediate do not give much guarantee that students are practically trained in experimental science, whereas a very short examination by an inspector is sufficient to determine whether the science teaching is experimental and inductive, or whether it is merely a useless cram of second-hand knowledge. It may very likely be found practicable to substitute the December entrance examination for an inspection of public schools, but serious evils will soon crop out if this method is continued very long in the high school system.

EXTREMES MEET.

In the management of a school there are two opposite tendencies, either of which if followed to the extreme leads to disastrous consequences. On the one hand, perfect order, absolute silence, rigidly methodical routine, exact similarity of position, movements, mode of answering, execution of written exercises, and so forth, may be so carefully enforced as to become, as a matter of fact, the great leading purpose of the school. The direction of this tendency is towards excessive constraint, slavish adherence to cast-iron rule, want of free play for the individuality of both pupil and teacher, making all pupils exactly alike, all teachers the same sort of drill sergeants, all schools the same kind of penitentiaries. In the extreme, of which alone we now speak, it produces a deadly monotony, and an unnatural uniformity which is well-calculated to nip in the bud the germ of all self-direction and self-education. The pupil comes at last to automatic obedience, and is incapable of helping himself without an order from outside authority.

On the other hand, we have the opposite tendency which takes little note of order, system, and regularity. Things are allowed to take their own course; all goes as chance and circumstance may happen to determine. Programmes and timetables have no longer any meaning. The hours for opening and closing school, the times for beginning and ending recitations, the particular subjects set down for lessons, the proper division of work between teacher and pupils,—these things and others of like importance are quietly ignored. For particulars see Cowper's *Tirocinium*, or visit the school of some untrained teacher who does not take an educational paper, possesses no book on teaching, and takes no interest in the conventions and other professional gatherings. Occasionally you will find him an excellent scholar, perhaps an honor man of his university. But in most cases you will detect unmistakable signs of weakness and laxity in discipline, even before you cross the threshold.

There is Charybdis; here is Scylla. Over-drill and want of drill are both wrong. But every inspector knows of one or two schools in his beat where the round common-sense of the teacher mingles judiciously discipline and freedom of action, constraint and liberty, and succeeds in directing the pupils' spontaneity, through the stage of submission to authority, up to the higher and healthier level of self-government and self-direction. The grand instruments are common sense, patience, and an all-embracing sympathy.

FIFTH AND SIXTH CLASSES.

Within the last ten years several conflicts have occurred between the trustees of high schools on the one hand and the trustees of public schools on the other. Since the law forbidding the formation of union schools went into force, many union boards have been dissolved, and with the general advance of education in the province high schools have assumed a degree of importance unknown in their earlier history. In the smaller, and the medium-sized towns, the tendency has constantly been to place on the high school boards the best educated and most enlightened men, and in some cases the public school board has practically been handed over to a class of men having very little sympathy with national education and a very limited comprehension of its leading ideas. Even in larger towns, with five to eight thousand inhabitants, the elements composing the public school boards have too often been selected from a class incapable of estimating the results of education otherwise than by monetary considerations. We are far from asserting that none who have been denied the benefits of a public schoool training are qualified to serve on our public school boards. It is well known that some of the staunchest friends of education are men who have keenly felt the need of early training, who have nobly devoted themselves to the great work of securing for others the privileges which were denied to themselves. But very few such men are after all properly qualified to shape the educational policy of the board, though they are excellent co-adjutors under the guiding influence of broader views, and a more extensive mental horizon.

It is to be regretted that in some cases the public interest in the election of trustees has been so small that the office has literally gone a-begging, and the board as actually constituted has represented the intelligence of the town in the same way that Barebone's Parliament represented the intelligence of England. Hence has arisen occasionally a feeling of hostility to higher education and a distinct antagonism to the high school, as though it were a foreign rival to the public school. Men have lost sight of the system as a whole, and having failed to grasp the main thought of our national system, they have come to set one part against another, to introduce discord where there is the most urgent necessity for complete harmony.

No better example of such shortsightedness can be selected than the attempt to establish in the public schools of an ordinary town classes designed to perform work identical with that which must be done in the junior classes of the high school. On the score of economy alone, it is unreasonable to tax the rate-payers twice for the same thing, still more unreasonable because in the second case the whole tax falls directly on the town, while in the case of the high school the burden is distributed. On the ground of division of labor, it is quite as unreasonable; and again the contact of large numbers of pupils with each other is a powerful educative force which is dissipated and almost lost when they are separated and taught in the small numbers most towns can contribute to the fifth and sixth classes of the public school.

It is well known to educationists that the entrance examinations have during the last twelve years worked a silent revolution in the teaching of our public schools. The introduction of these extra classes, to which admission can be gained without passing a test uniform throughout the province, will rapidly

tell on the thoroughness and efficiency of the teaching in the lower divisions, just as certainly as the thoroughness and efficiency of the teaching in the high school would receive a severe blow by the abolition of that uniform test which has in ten years raised them on the shoulders of their former selves to their present flourishing condition.

On the other hand, high school boards should perceive the absolute necessity of making the lower form of their school practically as free as the classes of the public school. The fee should be only nominal; while those who are preparing for teachers' certificates or for entering the universities may reasonably be required to pay more than at present. Students of the latter classes look solely at the efficiency of the school; a difference of five or ten dollars does not cost them a moment's consideration. High school boards might also do much service to the cause of national education by taking particular pains to dispel the popular illusion that every pupil is compelled to study foreign languages, by providing for their junior classes teachers who have seen service in public school work, and by taking an active interest in the work of the public schools. Public school inspectors, coming as they do in contact with both boards, can do very much to promote that co-operation which is essential to the harmony of our system, a system conceived throughout in a liberal spirit worthy of a great and free nation.

In large cities, the higher classes of the public schools can be maintained efficiently, and in villages and townships they may be maintained as a necessity, though in the latter case, as we have frequently pointed out, it would be a great gain to establish a proper division of labor by grading the schools of a township and sending all the pupils of the fifth and sixth classes to one or two schools. It is the glory of our school system not only that it places education within the reach of every child, but also that it is sufficiently flexible to adapt itself to the wants of the new township and to those of the crowded city. It only remains for the local authorities to carry out its provisions in their true spirit and all discords will soon cease. We must learn to economise our forces for the great work of this generation, and not waste them on useless friction.

REPORTS OF CASES.

It is well-known that most members of the medical profession keep a book in which they note down remarkable points of interesting cases that occur in their practice. The medical journals regularly contain numerous reports of noteworthy operations, successful treatment of diseases, etc. Medical literature is full of reports of actual cases that have come under the personal observation of the writers. Thus, also, in law, proceedings are regularly reported. The consequence is that these professions have an accumulating body of experience which is available for every member of the profession for all time to come. Now, it is the power of accumulating common experience, and appropriating the results of the past for further progress, that distinguishes civilization from barbarism.

How does the teaching profession stand in this respect? Are the young teachers of to-day benefitting by the mistakes of the preceding generation? Are their advantages in this respect equal to those of the young doctor or the freshly called barrister? Our normal and model schools are doing a great work in the way of general direction and training, but they can not do everything. The concluding chapter in "Abbott's Teacher," for example, does for the young teacher something that no set lectures on methods can do.

Inspector Brown, of Peterboro', cast a seed-thought at the recent closing exercises of the Toronto normal school, when he expressed regret that he had not during his thirty years' teaching experience kept a careful record of his pupils' careers; and urged on his hearers this idea, which has more than once been brooched in these columns. We shall be glad to publish in our practical department a short statement of such cases as are likely to be instructive to the profession generally. Theory holds its proper place in education, ideals are sometimes thoroughly inspiring, but, after all, as Carlyle says, "The grand school-master is practice." Who will take the first step towards providing a treasury of experience in Canadian school teaching? Whoever makes such reports will be greatly benefited by the observation and reflection necessary to produce them.

THE MINISTER OF EDUCATION.

Mr. G. M. Adam, and the little clique of which he is the mouth-piece, foreshadowed their programme some six months before the provincial elections. An attack on the Education Department was declared to "form one of the first elements in the common campaign." By way of introduction, the *Educational Monthly* devoted its attention to Mr. Crooks in its own peculiar way—"he has no command of the resources of a great man,"—"compounded of capriciousness and political partisanship,"—"dominated by his official importance,"—"wanting in sensitiveness and apprehension,"—"his political partisanship is a public scandal,"—"his wordy flatulence is only equalled by his pretentious ignorance,"—"a record of weakness and vacillation." These and many other choice shafts were let fly at the doomed Minister.

But notwithstanding the ukase of G. M. Adam & Co., Mr. Crooks is Minister of Education for another term. We heartily congratulate the Hon. gentleman on his re-election, which shows that the common sense of the people still appreciates the severe labor he has done in the public service. It is very gratifying to be able to record Mr. Crooks' recovery from his recent illness.

OUR EDUCATORS.

It has been often stated that we have just reason to be proud of our admirable school system in this Province, and, if this be true, we have reason to be proud of the men who have made it what it is.

Considering that our school system is only some fifty years old, we have had, and we now have, in proportion to our popu

lation, as goodly a number of excellent practical men as teachers, organizers, and administrators, in school matters, as, probably, any other country has, within a like period, produced. In educational literature, however, we have had to draw largely from older countries; but we are growing in this direction also, and ere long we may expect to see the works of several of our educationists occupy the position of recognized standards.

Mr. Hughes, inspector of public schools in Toronto, and formerly editor of the SCHOOL JOURNAL, is acquiring an international reputation as an educator. A short time ago, his works on teaching were adopted in Iowa and other States as books of reference for teachers, and in two or three of the States they have been reprinted. He has just returned from New York, where he has been lecturing on educational work, under the auspices of one of the institutes of that city.

The following items from current English papers will give our readers a glimpse of the working of the clauses in the New Code relating to Compulsory Attendance and to Payment by Results:—

At the Wandsworth Police Court, last week, Mr. Sheil was engaged for some time in hearing a number of summonses which had been taken out by the two superintendents for the Lambeth division of the School Board for London and the officer appointed for the School Board at Barnes. In one case, Mr. Williams, the superintendent, said it was a peculiar one, as the child, who was only nine years of age, was beyond the control of the parents. He wished the magistrate to send the boy to an industrial school. Mr. Sheil said he did not like to relieve the parents, so that their children might be maintained by other people. Mr. Williams stated that the parents had been fined fifteen or sixteen times. Mr. Sheil thought a child nine years old could not be beyond the control of the parents. He inflicted a penalty of 5*s.* In the case of a boy, eleven years of age, it was stated that he had not been to school for six months. Mr. Sheil said a strong man like the father ought to be able to make the boy go to school. The father replied that the boy would not go. If he thrashed him he would not return home. Captain Pasley said the defendant had been fined 5*s.* repeatedly. Mr. Sheil said he would fine him 5*s.* again. One defendant said his boy had bad feet, and could not wear shoes. Mr. Sheil said the defendant could send the boy to school without boots. He fined him 2*s.* 6*d.* In some of the cases the parents pleaded illness of the children as an excuse. One mother stated that the children were suffering from measles. Mr. Sheil said he could not convict a woman whose children were suffering from measles. He adjourned the summons for inquiry. In another case it was stated that the mother was in her confinement. Mr. Sheil said he could not punish the husband while his wife was ill. If he fined him, and he did not pay, his goods would be taken for the money. The summons was adjourned.

The grants to Infants' Schools will consist of a *fixed* grant of 9*s.* per scholar on the average attendance; a *merit* grant of 2*s.*, 4*s.*, or 6*s.*, according as the school is reported to be fair, good, or excellent; a grant of 1*s.* for needlework, and a grant of 6*d.* for singing by ear, or 1*s.* for singing by note. In awarding the merit grant, allowance will be made for special circumstances, and regard will be had to the provision for (1) suitable instruction in the elementary subjects; (2) simple lessons on objects, and on the phenomena of nature and of common life; and (3) appropriate and varied occupations. No merit grant at all is made unless the Report on the instruction in the elementary subjects is satisfactory.

Mathematical Department.

MATHEMATICAL TRIPOS.—CAMBRIDGE, ENGLAND.

1. Convert $\frac{1}{19}, \frac{2}{19}, \ldots\ldots \frac{18}{19}$ into circulating decimals, explaining any methods for deriving one case from another and for shortening the work.

2. Resolve into its component factors

(*a*) $(a^3+b^3+c^3)xyz+(b^2c+c^2a+a^2b)(y^2z+z^2x+x^2y)$
$+(bc^2+ca^2+ab^2)(yz^2+zx^2+xy^2)+(x^3+y^3+z^3)abc+3abcxyz.$

(*b*) Show also that if $x+y+z+w=0$, then
$wx(w+x)^2+yz(w-x)^2+wy(w+y)^2+zx(w-y)^2+wz(w+z)^2$
$+xy(w-z)^2+4xyzw=0.$

3. Solve the equations

(*a*) $\dfrac{3x-2}{5}-\dfrac{1}{6}\left(x-\dfrac{1}{6}\right)=\dfrac{2x}{51},$

(*b*) $x^3+y^3=b^3,\ xy+a(x+y)=ab,$

(*c*) $x+y+z=x^2+y^2+z^2=\frac{1}{2}(x^3+y^3+z^3)=3$

4. Show how to insert any number of geometrical means between two given numbers.

An *A. P.*, a *G. P.* and an *H. P.* have a and b for their first two terms; show that the $(n+2)^{\text{th}}$ terms will be in *G. P.* if

$$\frac{b^{2n+2}-a^{2n+2}}{ba(b^{2n}-a^{2n})}=\frac{n+1}{n}.$$

5. Define a logarithm. Prove that the logarithm of the product or quotient of two quantities is the sum or difference of their logarithms.

If $x_3=\log x_1x_2,\ x_4=\log x_2x_3, \ldots\ldots,\ x_n=\log x_{n-2}x_{n-1}, x_1=\log x_{n-1}x_n,\ x_2=\log x_nx_1$, then $x_1x_2\ldots\ldots x_n=1$.

6. Find the number of Permutations of n things taken r together.

There are n points in a plane, no three of which lie in a straight line. Find how many closed r-sided figures can be formed by joining the points by straight lines.

SOLUTIONS.

1. $\frac{1}{19}=0\cdot05263\frac{3}{19}$, $\therefore \frac{3}{19}=\frac{1}{19}\times3=\cdot15789\frac{9}{19}$
$\therefore \frac{1}{19}=\cdot0526315789\frac{9}{19}$, and $\frac{9}{19}=\cdot4736842105\frac{5}{19}$
$\therefore \frac{1}{19}=\cdot052631578947368421 05\frac{5}{19}$. Now as there cannot be more than 18 figures in the circle, and as our remainders begin to recur there we see that the circulating point should be placed over the last 1.

2. (*a*)

$$\text{Expression} = \left|\begin{array}{l} (a^3+b^3+c^3)xyz \\ +(x^3+y^3+z^3)abc \\ +\quad 3abcxyz \\ +(a^2b+b^2c+c^2a)(x^2y+y^2z+z^2x) \\ +(a^2c+c^2b+b^2a)(x^2z+z^2y+y^2x) \end{array}\right|$$

$$= \left|\begin{array}{l} ax.ay.az+bx.by.bz+cx.cy.cz \\ +ax.bx.cx+ay.by.cy+az.bz.cz \\ +ax.by.cz+ax.by.cz+ax.by.cz \\ +ax.ay.bx+ay.az.by+az.ax.bz \\ +bx.by.cx+by.bz.cy+bz.bx.cz \\ +cx.cy.ax+cy.cz.ay+cz.cx.a \\ +ax.az.cz+az.ay.cz+ay.ax.cy \\ +cx.cz.bx+cz.ay.bz+cy.cx.by \\ +bx.bz.ax+bz.by.ax+by.bx.ay \end{array}\right|$$

$$\begin{array}{ll} = ax & \left|\begin{array}{l} ay.az+bz.az+cx.az \\ +ay.bx+bz.bx+cx.bx \\ +ay.cy+bz.cy+cx.cy \end{array}\right| \\ + by & \left|\begin{array}{l} \quad '' + '' + '' + '' \\ + '' + '' + '' + '' \\ + '' + '' + '' + '' \end{array}\right| \\ + cz & \left|\begin{array}{l} \quad '' + '' + '' + '' \\ + '' + '' + '' + '' \\ + '' + '' + '' + '' \end{array}\right| \end{array}$$

$$= (ax+by+cz)(ay+bz+cx)(az+bx+cy)$$

NOTE. This is a very fine example of symmetry, and the solution presented shows the advantage of attending carefully to it. The work may be exhibited in a still more simple form by writing

$$\left.\begin{array}{l} k,\ l,\ m \\ p,\ q,\ r \\ s,\ t,\ v \end{array}\right\} \text{ for } \left\{\begin{array}{l} ax,\ by,\ cz \\ ay,\ bz,\ cx \\ az,\ bx,\ cy \end{array}\right.$$

respectively, as our readers may verify for themselves.

(b) Assume

$wx(w+x)^2+wy(w+y)^2+wz(w+z)^2+yz(w^2+x^2)+zx(w^2+y^2)+xy(w^2+z^2)-2xyzw=0$

i.e. $wx(w+x)^2+wy(w+y)^2+wz(w+z)^2+yz(w^2+x^2)+zx(w^2+y^2)+xy(w^2+z^2)=2xyzw$

Put $w=0$ *i.e.* $x+y+z=0$ in given relation and we have $0+0+0+yz(x^2)+zx(y^2)+xy(z^2)$ on the left hand

i.e. $xyz(x+y+z)$ which must $=0$ since $x+y+z=0$

$\therefore$ w is a factor of the left hand member. Hence by symmetry $xyzw$ is a factor

i.e. left hand $=Nwxyz$ where N is some *numerical* factor, for being of only four dimensions the left hand side can have no more literal factors. To find N, put $w=1$, $x=2$, $y=-2$, $z=-1$.—[N.B. We must be careful to assume values which agree with the relation $w+x+y+z=0$.] We then have

$$2(3)^2+(-2)(-1)^2+0-(2)(5)+(-4)(-2)=4N$$

whence $8=4N$ and $N=2$ as required. Thus the given relation is true.

It will be useful to the reader to solve this example syntheticly thus $w+x+y+z=0$ $\therefore$ $(w+x)^2=(y+z)^2$; $(w+y)^2=(x+z)^2$; $(w+z)^2=(x+y)^2$.

Hence

$wxy(w+x+y+z)+wxz(w+x+y+z)+wyz(w+x+y+z)+xyz(w+x+y+z)=0$

i.e. $wx(y^2+x^2)+wy(x^2+z^2)+wz(x^2+y^2)+yz(w^2+x^2)+xz(w^2+y^2)+xy(w^2+z^2)+4wxyz=0$

i.e., $wx(y+z)^2+wy(x+z)^2+wz(x+y)^2+yz(w-x)^2+zx(w-y)^2+xy(w-z)^2+4wxyz=0$

$\therefore$ $wx(w+x)^2+wy(w+y)^2+wz(w+z)^2+yz(w-z)^2+zx(w-y)^2+xy(w-z)^2+4wxyz=0$ and this is the given relation.

3. (a) Multiply through by 30

$18x-12-5x+30+\frac{60x}{51}=x+\frac{3x}{17}$

$12x+18=\frac{3x}{17}$

$4x+6=\frac{x}{17}$

$67x=-102 \qquad x=-\frac{102}{67}$.

(b) From (2) $a(x+y)=ab-xy$

$\therefore a^3\{(x^3+y^3)+3xy(x+y)\}=a^3b^3-x^3y^3-3abxy(ab-xy)$

And from (1) $a^3b^3+3xy(x+y)=a^3b^3-x^3y^3-3abxy(ab-xy)$

$\therefore$ $xy=0$ *i.e.* either $x=0$ or $y=0$. If the former $y^3=b^3$ or $y=b$, if the latter $x=b$.

(c) Write the equations

(1) $x+y+z=3$

(2) $x^2+y^2+z^2=3$

(3) $x^3+y^3+z^3=6$

Square (1) and substitute (2) and $(xy+yz+zx)=3$, (4).

Cube (1) and substitute (3),

$(x^3+y^3+z^3)+3(x+y+z)(xy+yz+zx)-3xyz=27$

i.e., $3xyz=6$, $xyz=2$, $xy=\frac{2}{z}$ (5).

Substitute (5) and (1) in (4)

$xy+yz+zx=xy+z(x+y)=3$

$\therefore$ $\frac{2}{z}+z(3-z)=3$, a quadratic which gives two values for z, from which we may find corresponding values for x, and y.

4. $(n+2)^{\text{th}}$ term of $A.P=\frac{n+2}{2}\{b(n+1)-a(n-1)\}=\frac{n+2}{2}.x$, say (A)

" " $G.P=\dfrac{b^{n+1}}{a^n}$ (B)

" " $H.P=\dfrac{2ab}{(n+2)\{a(n+1)-b(n-1)\}}$

$=\dfrac{2ab}{(n+2)y}$, say (C)

Now when A, B, C are in $G.P$ $\dfrac{A-B}{B-C}=\dfrac{A}{B}$; hence we must have

$$\frac{\dfrac{(n+2)x}{2}-\dfrac{b^{n+1}}{a^n}}{\dfrac{b^{n+1}}{a^n}-\dfrac{2ab}{(n+2)y}}=\frac{\dfrac{(n+2)x}{2}}{\dfrac{b^{n+1}}{a^n}}$$

i.e., $1-\dfrac{b^{n+1}}{a^n}\cdot\dfrac{2}{(n+2)x}=1-\dfrac{a^n}{b^{n+1}}\cdot\dfrac{2ab}{(n+2)y}$

or $\dfrac{b^{2n+2}}{a^{2n}}=\dfrac{abx}{y}$

$\therefore$ $\dfrac{b^{2n+2}}{a^{2n+2}}=\dfrac{bx}{ay}$, also $\dfrac{ab^{2n+1}}{ba^{2n+1}}=\dfrac{ax}{by}$. Subtracting 1 from each side

$\dfrac{b^{2n+2}-a^{2n+2}}{a^{2n+2}}=\dfrac{bx-ay}{ay}$, and $\dfrac{ab^{2n+1}-ba^{2n+1}}{ba^{2n+1}}=\dfrac{ax-by}{by}$

Dividing one equation by the other

$\dfrac{b^{2n+2}-a^{2n+2}}{ab(b^{2n}-a^{2n})}=\dfrac{bx-ay}{ax-by}=\dfrac{n+1}{n-1}$ when we restore the values of x and y and strike out the common factor (b^2-a^2).

UNIVERSITY OF TORONTO.

JUNIOR MATRICULATION, 1882.

MATHEMATICS.—PASS.

Examiner—F. HAYTER, B.A.

1. The interest on a sum of money for two years is \$349.58, and the discount on the same sum for the same time is \$310.74; simple interest in both cases. Find the rate per cent., and the time.

2. *A.* in Toronto pays *B.* in Paris 1000 francs by a bill of exchange on London, exchange at Paris being 25·25 francs for £1 sterling. Find the amount of the bill, and its value in currency (£1=\$4.86⅔). When the bill reaches Paris exchange is at 25·23. Find the amount in francs for which the bill sells.

3. Simplify

(i) $\dfrac{x^2-15x+54}{x^2-7x+10}\times\dfrac{x^2-5x}{x^2-2x-63}\times\dfrac{x^2+5x-14}{x^2-6x}$.

(ii) $\dfrac{2\sqrt{2}+\sqrt{3}-1}{\sqrt{3}+1}-\dfrac{\sqrt{2}-1}{\sqrt{2}+\sqrt{3}}-\dfrac{2\sqrt{2}+\sqrt{3}-1}{\sqrt{3}+1}\times\dfrac{\sqrt{2}-1}{\sqrt{2}+\sqrt{3}}$.

4. Divide

$a^{4n-1}-a^{2n-1}+2a^{2n-2}-a^{2n-3}$ by $a^{2n}+a^n-a^{n-1}$.

Divide by Horner's method

$x^8+5x^6+11x^4+19x^2-36$ by $x^4-2x^3+2x^2+2x-3$.

5. Find the L. C. M. of

$(4x^3-4ax^2)$, $(3x^2-9ax+6x^2)$, and $(2x^3-8a^2x)$.

6. If the minute hand of a clock be 4 inches long and the hour hand 3 inches, find the times between 4 and 5 o'clock when their ends are 5 inches apart.

7. Solve

(i) $\sqrt{1+x^2}+x=a$.

(ii) $\begin{cases}12x-13y=7\\144x^2-156xy+169y^2=4729.\end{cases}$

(iii) $\begin{cases}x+y=z\\x^2+y^2=29\\xy=6.\end{cases}$

8. The opposite sides and angles of a parallelogram are equal to one another.

The diagonals of a parallelogram bisect each other. The angle between the diagonals of a rhombus is a right angle.

9. Upon the same straight line, and upon the same side of it, there cannot be two similar segments of circles, not coinciding with one another.

Similar segments of circles upon equal straight lines are equal to one another.

SOLUTIONS.

1. Int.=amt. of disct. $\therefore$ $(349.58-310.74)$=int. for two yrs. on 310.74=\$38.84

$\therefore$ 19.42 is int. on 310.74, what is the int. on \$100?

Ans. $=(19.42\times100)\div310.74=9710\div155.87=$&c.

2. 1 franc=£$\frac{4}{101}=\frac{4}{101}\times4.86\frac{2}{3}$ dollars

$\therefore$ 1000 francs$=1000\times\frac{4}{101}$ £'s sterling =&c.

$=1000\times\frac{4}{101}\times4.86\frac{2}{3}$, dollars. "

Value$=1000\times\frac{4}{101}\times25.23$ francs. "

3. (1) Expn. $=\frac{x-5}{x-2}$.

(2) $\dfrac{(\sqrt{2}-1)+(\sqrt{2}+\sqrt{3})}{\sqrt{3}+1}\left(1-\dfrac{\sqrt{2}-1}{\sqrt{2}+\sqrt{3}}\right)-\dfrac{\sqrt{2}-1}{\sqrt{2}+\sqrt{3}}$

$=\dfrac{(\sqrt{2}-1)+(\sqrt{2}+\sqrt{3})}{\sqrt{3}+1}\cdot\dfrac{\sqrt{3}-1}{\sqrt{2}+\sqrt{3}}-\dfrac{\sqrt{2}-1}{\sqrt{2}+\sqrt{3}}$

$=\dfrac{\sqrt{2}-1}{\sqrt{2}+\sqrt{3}}+1-\dfrac{\sqrt{2}-1}{\sqrt{2}+\sqrt{3}}=1.$

4. Dividend $=a^{2n-3}(a^{n+1}+a-1)(a^{n+1}-a+1)$
Divisor $=a^{n-1}(a^{n-1}+a-1)$
$\therefore$ Quotient $=a^{n-2}(a^{n+1}-a+1)=a^{2n-1}-a^{n-1}+a^{n-2}$.

1	1+0+5+ 0+11	+0+19+0−36
+2	2+4+14+16	+24
−2	−2− 4−14	−16−24
−2	− 2− 4	−14−16−24
+3	+ 3	+ 6+21+24+36
	1+2+7+8+12	0+ 0+ 0+ 0

Ans. $x^4+2x^3+7x^2+8x+12$.

5. Factoring, we have $4x^2(x-a)$, $3(x-a)(x-2a)$, $2x(x-2x)(x+2a)$
$\therefore$ L. C. M. $=12x^2(x-a)(x-2a)(x+2a)$.

6. Sides of triangle are 3, 4, 5 inches $\therefore$ angle (3. 4)=right angle *i.e.* hands are 15 min. apart, *i.e.* min. hand has gained 5 min., or 35 min. $\therefore$ times are $\frac{5}{55}$ and $\frac{35}{55}$ of an hour, $=5\frac{5}{11}$ min. and $38\frac{2}{11}$ min. respectively.

7. (*i*) Transposing x, and squaring we get $2ax=a^2-1$, or $x=(a^2-1)\div 2a$.

(*ii*) For $12x$ and $13y$, write m and n, and we have $m-n=7$; $m^2-mn+n^2=4729$. Square the first and combine with the second, and $mn=4680$, *i.e.* $3mn=14040$. Add this to 2nd and take sq. rt. $\therefore$ $m+n=\pm 137$, $\therefore$ $m=72$ or -65, $n=-72$ or 65 *i.e.* $x=6$ or $-5\frac{5}{12}$, $y=5$, or $-5\frac{7}{13}$.

(*iii*) Substitute 1st in 2nd, and 3rd in the result, and we have $2x^4-17x^2+36=0=(2x^2-9)(x^2-4)$ $\therefore$ $x=\pm\frac{1}{2}\sqrt{18}$ or ± 2, from which we may get corresponding values for y and z.

8, and 9 present no difficulty.

ARITHMETIC.

1. If a population is now ten millions, the births 1 in 20 and the deaths 1 in 30, what will be the population in 5yrs.? *Ans.* 10791214.

2. Four men *A B C* and *D* undertook a piece of work for £26 10*s*. Now *A* could finish it himself in 4 months, *B* in 6, *C* in 9, and *D* in 12 days. But *B* began to work a certain time after *A*, and *C* and *D* began together a certain time after *B*. *A* received £13 3*s*. $11\frac{21}{22}$*d*. more than *C*, and *B* and *D* received between them £8 1*s*. $7\frac{7}{22}$*d*. How long did *A* work before *B* began, and *B* before *C* and *D* began; what did each person receive for his work; and how long was it in finishing?

Solution. *C* received $\frac{1}{2}(18$ " 8 " $4\frac{15}{22})-13$ " 3 " $11\frac{21}{22})=$£2 " 12 " $2\frac{8}{22}$
$\therefore$ *A* received £2 " 12 " $8\frac{8}{22}+13$ " 3 " $11\frac{21}{22}=$£15 " 16 " $2\frac{7}{22}$
$\therefore$ Time of *C* and *D*$=($£$26\frac{1}{2}\div$£2 " 12 " $2\frac{7}{22})\times 4=\frac{39}{44}$ month
$\therefore$ £$26\frac{1}{2}\times(12\div\frac{39}{44})=$£1 " 19 " $1\frac{17}{22}=$what *D* received
$\therefore$ *B* received £8 " 1 " $7\frac{7}{22}-$£1 " 19 " $1\frac{17}{22}=$£6 " 2 " $5\frac{12}{22}$
$\therefore$ *B's* time$=($£$26\frac{1}{2}\div$£6 " 2 " $5\frac{12}{22})\times 6=1\frac{17}{44}$ months
$\therefore$ $2\frac{17}{44}-1\frac{17}{44}=1$ month$=$*A's* time before *B* began,
and $1\frac{17}{44}-\frac{39}{44}=\frac{1}{2}$ month$=$*B's* time before *C* and *D* began. Now *A* worked the whole time $\therefore$ work was completed in $2\frac{17}{44}$ months.

3. *A* and *B* agree to carry 292lbs. 3 miles for 2.*s*. They set out with the load suspended from a 6 feet pole at the distance of 3ft " 4in. from *A's* shoulder, and carry it 6 furlongs. After resting they change places and carry it $1\frac{1}{4}$mls. farther, when the load accidentally slipped along the pole to 30 inches from *B* in which position it was carried to its destination. Neglecting the weight of the pole, divide the money fairly between them in proportion to the work performed.

Solution. 24 furlongs for 24*d*. $=1$*d*. per furlong.

They carried the weight 6 fur. and then changed places $\therefore$ at the end of 12 furlongs each would have earned 6*d*. But for the other 4 furlongs before they rested the second time the weight was 32in. from *B* and 40in. from *A*. Hence for this distance *A* should get $\frac{32}{72}$ and *B* $\frac{40}{72}$ of 4*d*. $=\frac{16}{9}$ and $\frac{20}{9}$*d*., respectively. Similarly for the last stage, the weight was 30in. from *B* and 42in. from *A* $\therefore$ *A* should get $\frac{30}{72}$ and *B* $\frac{42}{72}$ of the 8*d*. $=\frac{10}{3}$ and $\frac{14}{3}$*d*. respectively.

Thus *A* should receive $11\frac{1}{9}$*d*. and *B* $12\frac{8}{9}$*d*.

4. £3 " 17 " $10\frac{1}{2}$, English standard gold weighs 1 ounce Troy, or 31.1 French grammes. Now the value of English gold : value of the same weight of French gold :: 91·5 : 90, and a gramme of the latter is worth 31.1 francs. Convert 1000 English sovereigns into francs. *Ans.* 25172

5. Specific gravity of tin $=7\cdot299$ of lead $=11\cdot352$. The weight of a regular figure of tin $=318\cdot4767$ ozs., its axis are 8in., 6in., and 3in., and its volume increases in the same proportion as any one axis increases when the other two remain the same. Find the weight of another similar figure of lead whose axes are 18in., 9in., and 2in. respectively. *Ans.* 1114·4826oz.

ANSWERS TO CORRESPONDENTS.

C. McN.—For First Class Grade C. read McLellan's Handbook. You will find *Wentworth's Algebra*—Boston 1882, the best introductory book, and *Pott's*—Cambridge 1879 the best collection of examples for your purpose.

J. J. T.—We have found *Byerly's Differential and Integral Calculus* the most lucid and simple. As a beginner, they will probably suit you better than Gregory, or Williamson's. *Wheeler's Plane and Spherical Trigonometry* is also a very fine book for your purpose. These are all Boston, 1882 and might be ordered through any bookseller.

P. N. Dawson.—Your contribution though excellent in itself would not be interesting to the majority of our readers.

J. E. Jackson.—Our limited space, two pages, forbids your "Miscellaneous Rules." Please accept thanks.

Special Articles.

GRAMMAR AND COMPOSITION IN ELEMENTARY SCHOOLS.

The revolt against formal grammar in elementary classes is spreading more widely on this continent every day. The old heresy, that "English grammar teaches the art of speaking and writing the English language with propriety" is no longer believed. Experience has abundantly demonstrated that this art is acquired in high perfection by those who have a very limited acquaintance with technical grammar, but who have a loving acquaintance with the words of some favorite authors, masters of expression and models of beauty in style. Mr. Hodgson's recent book, "Errors in the Use of English," on the other hand, shows conclusively that many of the great scholars of the century who have spent their lives in the study of languages have often fallen into error and ambiguity in the use of their mother-tongue.

We no longer set our little pupils to learn by heart the list of adverbs, nor even the old, interminable rules of syntax. But for a long time we have, under the influence of grammars of the dead languages, dealt too much with dry, abstract names, and too little with the living realities of our speech. Chiefly we have gone far astray in our method of beginning at the wrong end of the subject. We have taken elementary sounds, words, genealogies of words, etc., as the starting point, whereas we ought to commence with the complete thought, the sentence. Even in our study of sentences we have generally eviscerated all meaning out of them by a complicated and exceedingly wearisome and technical system of analysis. Analysis has been the all in all; synthesis, production of sentences, has been almost ignored.

Our text-books have been written from the wrong stand-point. We hail with pleasure "The Essentials of English Grammar," a short, clear, easy book, written by Prof. Whitney, of Yale, the most distinguished philologist on the continent. This book starts with the sentence, and everywhere calls for direct, practical applications in the building of sentences by the pupil. We have here the promise of something more useful than "the adjunct to the completion of the predicate," and other dry bones of that ilk. As the little volume is adopted in our normal schools, we may hope very soon to find grammar and composition happily wedded in all our schools, and a living interest developed in putting words together, which will outweigh the benefits to be derived from minute dissections of involved passages. Let us hope that thought and meaning will no longer be buried under mausoleums of technical terms.

Formerly, boys and girls used to be set to "write a composition" on subjects far above their comprehension, on the "Improvement of Time," "Duty," and such-like themes. Pupils came to have a

horror for composition, because it was not to them the expression of thought. The stilted, pedantic, semi-bombast produced was one bad effect of the system. What could be more unnatural than for a child to ape the style of Dr. Johnson, or imitate Webster addressing the senate? Gradually, hard experience has taught us that children can only express the thoughts they have, and that we must set them to write about what they know, even if they produce at first very childish sentences. We must be content with the blade, which contains the power of growth, and wait patiently for the full corn in the ear. It has been found that even before a child can use a pen, it can be led to compose little sentences about the things it knows. The language lessons, which are now becoming a leading feature of our schools, are exercising a great educative power in training our pupils to see, to observe, to discriminate, to classify, in a word to think, and to express their thoughts precisely.

"Good Stories," a book full of suggestive pictures, will be found exceedingly helpful in this direction, and will enable many an overworked teacher to solve that most difficult problem, how to keep the little people usefully employed at their desks. In many of our schools there is far too much teaching. We destroy the productive, vital, growing power, by pouring in too much and by drawing out too little. Education proceeds from within, and the smallest child can be got to write intelligent sentences about a good picture, by simply asking one or two questions to awaken thought, and touch the sensitive imagination.

What shall we do with our older pupils who are getting beyond pictures and playthings? Shall we leave them to devour the detestable dime novel, and send them from school, at the age of thirteen or fifteen, with no taste for good books, no relish for elevating literature, no intellectual hunger for far-reaching thoughts? Teachers, if they leave you in this mental beggary, "what sairs ye're grammars?"

One of the best solutions we have heard of is the celebration of authors' birthdays. Mr. Goggin, the head master of the Port Hope model school, for example, has worked out an admirable scheme. In each room hangs a portrait of some first-class master in literature,—Hans Andersen, Daniel DeFoe, Charles Dickens, Longfellow, Whittier, Tennyson, &c., purchased by the pupils themselves. The teacher talks to the pupils about these writers, tells stories, relates incidents in their lives, their struggles, their triumphs, reads or recites some gem from their writings, gets the pupils to read, mark, learn, and inwardly digest some good passages, and give these in turn before the class. They celebrate the birthdays of these men, come to love them, read them, and derive infinite enjoyment from their writings. Does it not appear reasonable to suppose that a child who has passed through the several departments of such a school, will go out into the world with a loving tenderness for these "lords of the great heart," and with a supreme disgust for "Jack Sheppard" and the "Police Gazette"?

The *Present Age* has the following:—

"It ought not to be forgotten that behind speech lies thought. The primary condition of clear and correct language is clear and correct thinking. Errors in words and in the form of speech should doubtless be corrected as they appear, and the teacher should insist upon fit words, correct pronunciation, and clear statement—not in one exercise, but in all. A teacher thus careful to require correct language will teach it, whether he gives set lessons or not. The best users of common speech, are th se ₹ho grow up in intelligent families, where correct language prevails, and where without lessons, save those given by example, the child grows up to speak properly, as he does to act politely, and for the same reasons. But even where this early training has been wanting, the scholar who has advanced in knowledge and thinking power, till his ideas become clear, logical, and vivid, gradually improves his language, and comes at last to talk or write well simply because he thinks well. In a grown man, inaccuracy of language usually implies inaccuracy of thought and knowledge. We would not discourage the teaching of the mother tongue, but we would teach it by using it in the study of ideas and in the enlargement of knowledge.

"Nor is the study of grammar to be wholly condemned and abandoned. Language is the most wonderful invention, as it is the most useful instrument, of the human family; an invention none the less because invented by the millions through centuries of effort rather than by one mind in a fortunate hour. Language as a gigantic and complex fact is worthy of all the study bestowed upon it, but it is a study for ripe manhood and not for little children. It is the truest transcript of the human mind, and it pictures the finest and most recondite relations of logical thought. If the highest study of man is man, the widest avenue to such study is human speech. In all his works man incarnates more or less clearly himself and his thoughts, but in language he purposely embodies, as far as possible, the very texture and constructive law of his thinking. Hence the study of language must forever remain one of the most interesting, as it is one of the profoundest, to great thinkers. Like all knowledges, it has a body of simple facts which even the child can be interested in, but as a study it must always hold its place among the highest in the curriculum, in the closing instead of the open-period of the the school life."

The following article is from the Chicago *Tribune:*—

"Practical methods of teaching are gradually making inroads upon the old system of cramming. At the meeting of the City Board of Education, Thursday evening last, a resolution was adopted directing the committee on text-books to inquire into the expediency of banishing grammar (by the old method of teaching) from the schools. Dr. Burrows was shocked. He proposes to amplify rather than curtail the old rule-cramming system. He thinks pupils "need a big dose of Gould Brown," and "doubts whether the results of the modern system at Quincy and Boston will surpass that of twenty and fifty years ago." On the other hand, Mr. Keith thinks the grammar should be sent to the high school. For the benefit of Dr. Burrows and others who reverence antiquity, we beg to show some grammatical results of the old system in Norfolk county, Massachusetts. When Mr. Walton examined the schools of that county, with a view to ascertain exactly what the pupils acquired under the old system, he established a test of English composition by requiring pupils to read a certain narrative and then write their version of it. The test applied to children who were in the grammar grade, and been eight years in school. Following is the test narrative:

'Cyrus, the Persian Prince, had many masters, who endeavored to teach him everything that was good; and he was educated with several little boys about his own age. He was a boy of a very good disposition and a human temper; but even in his youthful games he showed a strong desire to command, and other boys used to make him their king. One evening his father asked him what he had done or earned that day. "Sir," said Cyrus, "I was punished to-day for deciding unjustly." "How so?" said his father "There were two boys," said Cyrus, "one of whom was a great and the other a little boy. Now it happened that the little boy had a coat that was much too big for him, but the great boy had one that scarcely reached below his middle and was too tight for him in every part The great boy proposed to the little boy to change coats with him, 'because then,' said he, 'we shall be both exactly fitted, for your coat is as much too big for you as mine is too little for me.' The little boy would not consent to the proposal; upon which the great boy took his coat away by force, and gave his own to the little boy in exchange. While they were disputing upon this subject, I chanced to pass by, and they agreed to make me judge of the affair. But I decided that the little boy should keep the little coat and the great boy the great one, for which judgment my master punished me." "Why so?" said Cyrus' father: "was not the little coat most proper for the little boy, and the large coat for the great boy?" "Yes, sir, answered Cyrus, "but my master told me I was not made judge to examine which coat best fitted either of the boys, but to decide whether it was just that the great boy should take away the coat of the little one against his consent; and therefore I decided unjustly, and deserved to be punished."'

"The pupils were given an hour, having read the narrative, in which to give their version of the story. Following are a few samples of the result:

'Cyrus was a disobiant boy. The little boy thought that the large coat would be better for him, and the large boy thought the small coat would be better for him. But the large coat was as much too small for the small boy as the large coat was for the large The large boy had ought to have had the large coat and the small boy the small coat I think that Cyrus was a greedy boy.

'The boy was whipped because he had the little boy's coat.

'Cyrus a pursian prince was a pheasant an educated boy but when he came home that night his father asked him what he had received that day. He said that he got punished at school his father asked him what for he said that there was a great boy and a little boy had a goat and the big boy had a little goat and the little boy had a big goat the big boy wanted to exchange goats he had the big goat and the little boy have the little goat so the big boy took his goat away by force and I came along and they wanted me to judge and I said the little boy should have the little goat and the big boy should have the big goat and so that is what I got punished for in school.

'Cyrus the Persian prince he was a boy of sense. One evening he was passing by the house of a small boy had a big goat the goat was much larger than the boy so that they had a dispute over the goat the boys have him for the judge he gave the little boy the goat when he got home his father asked him if he was good at school he said he had he punished injustly his father aid that he must be kind to one as to the other.

'There was a man by the name of Cyrus who was a Persian Prince. He had a very nice father, and asked him one night what he had done at school that day? He said that he had done something unjustly. The boys when Cyrus was playing any games with them used to make him their King. One day there was a boy who had a new coat, with Cyrus, and Cyrus wanted to make a change. The one that the boy had bought was very much too large for him, while Cyrus's was small. They kept on for two or three days but would not agree upon it. While they making this agreement, Cyrus's father came along. Cyrus had a very humane temper and was very gentle. Because Cyrus would not change with the other in a few days he was punished.

'Cyrus, the Persian prince, had good many masters, his father asked him if he had done anything wrong to-day, and he said he had been punished, and his father asked him what he had been punished for, and he said he had quarreled with another boy. What about, said his father, and Cyrus said that, a boy he was with, had on a big coat, that just fitted him, and his coat was too small for himself, and this other boy wanted to exchange with him. But Cyrus would not, just then a man came up, and settled the dispute, saying, that the big boy did very wrong in tareing the coat off the smaller boy. So Cyrus had to be punished for not giving up his coat to the other boy.'

"It will be observed that in some of the examples the sense of the narrative is followed tolerably well, while in most of them it is burlesqued; that in some punctuation is wholly neglected, while in others it is liberally indulged to the destruction of the sense; that in some the narrative is divided into sentences in violation of the rules of grammar, and in others not, equally in violation of the rules of grammar. It is plain, from these examples, that the pupils of the Norfolk county schools had been trained in grammar at the cost of English composition, according to the methods of the old system of instruction. Comment is unnecessary. The comment of the conductors of the Quincy schools was an order of banishment issued against the old system."

WINTER'S WORK FOR THE RURAL TEACHER.

The great school-masters "have achieved worthy results by the moral and intellectual climate they were able to produce, rather than by methods of teaching." Thus says a writer in a recent magazine article. Rural teachers are often surrounded by a depressing intellectual atmosphere. The pupils are not interested in school, because their parents are not interested. Home thoughts are narrow and slow, school thoughts are dull.

In such cases the teacher should make an effort to change the intellectual climate. He should try to stimulate, to widen, and to utilize the thought-power of the district. He should do this in order to make the school-room work more effective. The teacher may say within himself. "I will do my best to secure profitable study for my pupils, I will try to have them study in the best manner, and in order to have them study much and well, I will try to arouse parents as well as pupils to a wider range of thought and to lead them to think more and to think to a better purpose. If more thinking and better thinking is to be done during the coming winter than was done during the past winter, some person must cause it to be done, and that person should be the teacher. As a rule teachers are laborious, are earnest, are anxious for the improvement of their pupils; they are pained when their labors seem fruitless, because of the children's apathy. Let each try to change the intellectual atmosphere. Let them remember that a change of climate has often given physical health to the invalid. Health depends upon the air we breath as much as upon our food. Why may not intellectual vigor depend upon the intellectual atmosphere? If the great school-masters formed an intellectual climate for their pupils, why shall not other teachers attempt to do the same?"

Among measures for purifying the intellectual atmosphere and making it bracing and invigorating, the following are suggested: questions, general information, readings, committing to memory choice selections, biographical sketches and anecdotes, literary exercises. and societies.

1. *Questions*—To awaken thought nothing is better than a good question. The great teachers have been noted for their method of questioning. The teacher desiring to stimulate thought among his pupils and patrons, may give a question to his pupils at the close of school, saying, "I do not want an answer now; you may think about it to-night, and I will call for an answer to-morrow." The object being to excite thought, the question should be one that will interest the people, yet not be so easy as to require no reflection. A teacher once asked why the leaves fall, calling attention to some trees to which the dry leaves were still clinging. This led to much examination of the trees, and much talk about them at home. On another occasion he gave as a problem a recent transaction in the neighborhood: "A man sold a horse for $65, bought it back for $50, and sold it again for $55: how much did he make?" This excited great discussion. Nearly every man and boy in the district solved it, and proved his answer right, though there were several answers found.

On the next day the first question will be brought up, the answer discussed, and a second question presented for future reply. This course can be continued from day to day as long as the interest in the questions justifies it. At first the teacher may find it difficult to select stimulating questions of general interest. Let him not hesitate on this account, for in this, as in most other undertakings, the beginning is the most difficult part. Questions will soon multiply upon the thoughtful teacher. By practice will come skill in selecting the most appropriate. The children, taking the questions home, plying their parents with them, and discussing them with each other, will lead the parents to think about the school.

Teachers at a loss for questions may begin with the breakfast table. Why should coffee be provided for breakfast and tea for supper? Why buckwheat cakes at breakfast, but biscuit at supper? Whence come, and how are raised or made, the various articles and dishes on the table? Knowledge gained in finding answers to such questions will be live knowledge, while the giving and answering the questions will change the climate to one of inquiry, activity, and investigation. The children will in time learn to ask questions of the teacher and of their parents. When such is the case, to instruct them is a pleasure.

2. *General Information.*—The teacher may call the attention of the school to some subject of general interest, as a public work, a discovery in science, a great crop, a great act, a great accident, and talk over the same with the pupils. He may say, "Items of public interest are often mentioned in conversation and in the newspapers. Please inform me when you next notice one, and we will talk about it." Tact and skill will be needed to lead boys and girls to select topics wisely, but pupils can be trained to find useful information, and to tell it in a way to be interesting to themselves and to others. This exercise may lead pupils to select their reading, and to discriminate between useful and useless information, between the higher and the lower in thought. The topics of general interest are unlimited in number, as the world's work and workers, commerce, shipping, currency, food supplies, manufactures, etc., etc. Teachers may often have some difficulty in finding accurate information, as works of reference are not to be found in every school. But as a compensation, this difficulty will drive children to ask their parents and to consult books at home.

Some teachers make an interesting topic of the rights and duties of citizens, how officers are chosen, how they are paid, whence comes the revenue of the State, how the taxes are expended. Such topics are interesting when presented about election time. A wise teacher will choose his topics in season.

3. *Readings.*—"When I am reading a good book," says Hamerton, "the only Crœsus that I envy is he who is reading a better book." In some schools the attention of the pupil is confined to "doing sums," "parsing," and other routine work. The atmosphere of such schools is deficient in essential elements of intellec-

* Professor J. A. Cooper, Principal Edinboro' Normal School.

tual stimulus. To read well is to think well. A thinker excites thought in others, and purifies the educational atmosphere about him. One of the best services a teacher can do for a pupil is to lead him to think more, by inducing him to read more and to read more judiciously. This all teachers can do. The teacher may inquire of pupils what they have read or are reading, how they enjoy it. He may in turn tell what he himself is reading, and propose to bring his book and read a little to them, asking them to bring theirs and read to each other. Books, magazines, and newspapers will thus be brought to schools, and interesting selections be read from them. The children will experience the delight of reading good stories, and of hearing good stories read by others. The teacher can mention some good books which contain delightful reading, naming such as are known to be in the district or can be easily secured.

Several of the pupils might be led to read the same book, and compare views upon it. Such an exercise is most valuable in cultivating the taste and judgment. To be useful in this work, the teacher must look over the family libraries in the district, and learn something of their contents. This will make him acquainted with the people, will make him know the home-life of the children better, and will thus prepare him to reach the hearts and minds of the pupils. By associating with the parents, and talking over the contents of their libraries, the teacher will become an instructor and adviser of the parents, and will be consulted about papers, magazines, and books for the family. If he is competent to advise, he may do great good by his suggestions. In many families, new books are a rarity. In most cases, book purchases are accidental. A teacher acquainted with books, and familiar with the cheap editions, can do much to increase the reading facilities and reading habits of the young. Some of the best works in science, biography, history, and travel can now be had for ten or twenty cents. Five dollars would buy forty instructive and readable works in cheap form, and furnish a winter's reading for the whole district. Nearly every teacher, if he knew the books well, could induce the parents to spend the five dollars.

4. *Memory Selections.*—It will do children good to commit to memory extracts from the best writers. The thoughts contained in the extracts will awaken thought in the mind of the pupil. To learn the words and not understand the writer's thoughts does positive injury. Easy narrative, showing the exercise of the sterling virtues, is best for the younger pupils. The instructions should be felt rather than expressed in words, so that there would be no formal statement of a moral lesson. Short selections can be found, giving in vivid language, important historical, scientific, and geographical information. These committed to memory, and recited before the school, will stimulate to more energetic study of the regular school lessons.

A short and pointed maxim can be given and learned daily. Illustrations of its truth may be occasionally pointed out. It will be well to follow Jacotot's rule, "Learn something and repeat it daily." "Knowledge is easy to him that understandeth." All selections should be understood; they should be learned for their influence on the learner and on the school. This influence should reach the emotions through the understanding.

Every teacher should aim to make his pupils acquainted with a few extracts from one or two of our best American writers. Choose those that are valuable both for the thought and the expression.

5. *Biographical Sketches and Anecdotes.*—A bright young man attended the county institute for the first time, and listened to a lecture on one of the great teachers. The young man admired the lecture, and was enthusiastic in praise of the speaker. When asked by a prosy pedagogue about the great teacher and his work, the young man could remember but two events of his life, and nothing of the teacher himself—not even his name. "Well," said he, "it was about a man born in 1796, who died in 1842." The young man had been captivated with sonorous sentences. "Words of learned length and thundering sound" had amazed him, and like Goldsmith's village rustics, he wondered at the speaker and failed to understand the speech.

Much—far too much of all instruction—stops at the ear, and never reaches the understanding. Too much of history and biography is confined to dates. To any youth, a short and characteristic anecdote of a distinguished person is of more value than the dates of every event in his life. A date is of value only when a man's life is specially formed by the particular opportunities of his age. Washington and Grant enjoyed opportunities which developed their powers. Had the Revolution and the Rebellion each been delayed a quarter of a century, both might have remained in private life, and been unknown to history.

It is much more interesting, and much more valuable to a boy, to learn that William Brown, a shepherd lad twelve years of age, taught himself Greek, and walked twenty-four miles to buy a Greek New Testament, than to learn that he was born in 1724, married in 1749, and died in 1801.

Sketches—character sketches of the wise and good—are instructive, pleasing, and stimulating. It would be a valuable exercise for teachers and pupils to find, learn, and repeat anecdotes of good men and women. They should be such as illustrate the character and habits of the individuals, and exhibit conduct worthy of imitation and emulation. In the struggles and trials of others, the pupil will see the path of his own self-development. "Example sheds a genial ray of light which men are apt to borrow," and also to follow. The example of the virtuous and the self-denying is best shown in characteristic anecdote. A teacher should make a note of valuable personal stories, and keep the same securely. A book of such sketches, gathered from time to time, would be a great treasure. These stories, often repeated in the family, will help to create a bracing intellectual atmosphere in the home.

6. *Literary Societies.*—Some teachers have organized literary societies among their pupils, or among their patrons, and with excellent results. Perhaps it could not be done in every school. Perhaps some teachers could not do it in any school. But the average teacher in the average district can make it a success. If successful, it unites the thinking forces of the district, and concentrates thought upon educational affairs. It sends the children to school with improved intellectual appetites. A teacher competent to organize a literary society, can soon determine whether it will be expedient to make the attempt. He can invite his patrons to visit the school some afternoon and witness a review of his school work. He can have some topics of general interest discussed by the pupils, and from its effect upon the parents he can judge of the propriety of trying to establish a society for reading, discussion, and other literary work.

HINTS AND CAUTIONS.

1. Every teacher who wants to make the most of his school, must try to awaken thought in the district, and if he tries he will succeed.

2. "The beginning is the whole." Therefore, begin. Every teacher can do something to improve the educational climate about him.

3. Say little about your plans and aims. Do something, and waste no time in announcing purposes and plans.

4. Begin with the easy; proceed to the difficult. Attempt no more than you believe you can carry through.

5. Have a definite end in view, and plan and work for that end.

6. Remember the power to think, the habit of thinking, and the mode of thinking, are of greater value than the accumulation of facts.

7. Advance regularly. Let each day see something attempted, something done. "It is the steady gait that tells."

8. Measure your success by the improvement in the educational atmosphere. Your value to the district will depend upon the change you produce in the tastes and thoughts of the district.

9. Not all teachers may be able to work well in all the above directions, but every true teacher can work in one or more directions.

10. While trying to improve the climate, do not neglect sound intellectual food. Improve that also.

11. Every honest effort for good by the teacher will exert a reflex influence upon himself, and while trying to help others, he himself will receive most benefit.

WHAT A NORMAL SCHOOL SHOULD DO.*

A normal school is not an academy; it is not a high school; it is not a seminary; it is not a college. It is to the profession of teaching what West Point Military Academy is to our army. Any schools going under the name of normal schools which do not fulfil this mission, are falsely so called.

It is no more than natural, indeed it is necessary, that the no r mal school of the future should be very different from that of the past. Professional schools, designed to fit persons to skillfully apply the principles of a profession that could scarcely be said to exist, must have been experimental from the very nature of the case. But is the time not now come when it may safely be said that the true sphere of a normal school is clearly defined? And should not these schools proceed more rapidly to the ingathering after all of these years of sowing and cultivation, toward the realization in concrete results of this long investment of time, and thought, and experience?

The most ardent friends of these schools will readily admit that they are not accomplishing all they should, in view of the needs of the profession; but far from any desire among the friends of popular education to abolish these schools, there is the earnest inquiry "How may their efficiency be increased? Wherein do they fail to fully occupy their proper sphere?

The unanimous experience of men and women most conversant with this problem is, to thoroughly disprove the idea that these schools can omit all academic work, that is, instruction in the branches of a text-book education. This is true for the same reason that it is found necessary to thoroughly re-teach a cadet's mathematics at West Point, no matter where he may have received his training. It may be no discredit to the methods of instruction possessed in the high school or college that they are not adapted to *teachers*, any more than to *preachers;* but it is a stubborn fact, attested by the experience of thousands of teachers and students in normal school work, that in order to get the complete mastery of a subject for professional use in the school-room, that subject must be studied with that end in view.

It is, therefore, laid upon normal schools as an imperative necessity, that they give attention to the *matter* of an education. But it is equally important that these schools be strictly method schools in the broadest and best sense of the term. They must be professional schools. They should be the fountains from which shall flow the purest streams of thought upon the question of popular education.

The first and most important thing to attend to, if these schools be brought up to this very desirable standard, is the employment of competent teachers in the schools. Not competent in the general sense of sufficient book knowledge, and good character, for the schools are already well supplied with such teachers; but peculiarly able in technical skill, and in that power demanded of those who essay to teach teachers. They must have the most active and intense sympathy with the common public schools. Without this the conception of the proper work of a normal school teacher is impossible. Such a teacher must see what *his* students will do in their schools because of the influence of *his* work. He must comprehend the common school work as the work of the state, and be familiar with its needs, its faults, its virtues, and its aims.

But the thoroughly qualified teacher will be alive to the subject of method. He will know the whys and wherefores of the particular plans he uses in his own work, as well as progressive in devising and adopting new methods. He must grasp comprehensively the underlying laws of education, and be able to lead the mind of his pupils back from a specific method of teaching to the conditioning principles governing all true methods. He must see, *and be able to make others see* the relation of subjects taught to the mind of the learner, and be able to trace out with vividness the mental processes involved. Such teachers our schools demand; such they will have.

This would make possible the organization of every department of a normal school into a *method department*, and would make every class a *method class*. Herein is the key to the entire problem. Not only should a teacher in a normal school be required to teach all of the subjects belonging to the common school curriculum, but he should give thorough instruction in the method of teaching each subject in any grade of work. This will keep the teacher out of ruts, and prevent his withdrawing himself within the narrow circle of his own specialty. Students will be saved from becoming mere echoes of some teacher of methods. They will be made acquainted with various avenues of approach to certain subjects, and be continually referred to the principles of the science of education.

This plan would not do away with a special department for professional training; it would rather help to deprive the work of this department. It would enable the teacher of methods to greatly broaden out his work to enter the fields of the history and philosophy of method, and to thoroughly teach those laws had in common by all the subjects of the school course.

If thoroughly qualified teachers constituted the faculty of a normal school, there is nothing in the nature of the case to prevent the operation of such a plan. The teacher can follow through a subject according to the best method he knows, with a view of merely acquainting his class with the matter of the subject; then, on careful review, he may examine into his own method with his class, and require of them a thorough mastery of the methods by which this subject can be best presented.

After a while, when these students enter their own school-rooms, they will know *how* to teach other subjects than those only that they have studied with a "method teacher."

The little addition of time needed for this kind of work would be amply repaid to the state in the increased efficiency of the pupils from her normal schools. It would certainly greatly increase the value of the work done by the undergraduates. It would further tend to bring the schools into closer sympathy with the com mon schools, and cut off much of that false pride that would make normal schools nothing more than academies with paten-attachments.

* By Prof. T. J. Gray, (Normal School, St. Cloud, Minn.), in "New York School Journal."

Examination Questions.

ADMISSION TO HIGH SCHOOLS. Dec. 1882.

ARITHMETIC.

TIME—TWO HOURS.

10 Marks for each question.

1. From 935 take 846 explain clearly the reason for each step.

The difference between 82610 and the *product* of two numbers is seventy million three hundred thousand. One of the numbers is 9402; find the other.

2. Find the amount of the following bill:—36 lbs. 8 oz. beef at 16c; 16 lbs. 10 oz. mutton at 14c; 7 lbs. 12 oz. pork chops at 12c; 15 lbs. 6 oz. turkey at 18c; 4 lbs. 10 oz. suet at 16c.

3. Find the L.C.M. of 11, 14, 28, 22, 7, 56, 42, 81; and the G.C.M. of 40545, 124083.

4. Prove that $\frac{3}{4}$ of $1 = \frac{1}{4}$ of 3.

Simplify $\dfrac{\frac{5}{14} - \frac{3}{7} \text{ of } \frac{1}{2}}{\frac{5}{16} + \frac{7}{12} \text{ of } 3\frac{1}{4} - (\frac{7}{8} \text{ of } \frac{37}{21} - \frac{1}{3})} \div \dfrac{\frac{1}{3} \text{ of } \frac{1}{2} + \frac{3}{2} \text{ of } 5}{9\frac{1}{3} - 1\frac{2}{3}}$.

5. Prove that $1{\cdot}025 \div {\cdot}05 = 20{\cdot}5$.

Find the cost of ·0625 of 112 lbs. sugar, when 1 lb. costs ·0703125 of 16*s*.

6. Reduce 45740108 square inches to acres.

7. The bottom of a cistern is 7 ft. 6 in. by 3 ft. 2 in. How deep must it be to contain 3750 lbs. of water, a cubic ft. of water weighing 1000 ounces?

8. *A* runs a mile race with *B* and loses; had his speed been a third greater he would have won by 22 yards. Find the ratio of *A's* speed to *B's*.

9. *A* does $\frac{2}{3}$ of a piece of work in 6 hours; *B* does $\frac{3}{4}$ of what remains in 2 hours; and *C* finishes the remainder of the work in 30 minutes. In what time would all working together do the work?

10. By selling tea at 60c. per lb. a grocer loses 20 per cent.; what should he sell it at to gain 20 per cent.?

ENGLISH HISTORY.

TIME—ONE HOUR AND A HALF.

1. Tell what you know about the coming of the Danes into England.

2. When did Henry II. become king of England? What did he do to make the government better and stronger? Tell what you remember about Thomas à Becket.

3. Give an account of the Great Charter and the struggle by which it was secured.

4. Tell what you know about the wars with France in the reign of Edward III.

5. When did Henry VII. begin to reign? Tell of his troubles with pretenders. What was his policy towards the nobles? His foreign policy?

6. Tell what you know about the following persons:—Lord Darnley; Villiers, Duke of Buckingham; Lord Strafford.

7. We are told that "The Reform Bill marked a great advance in the English Constitution." Put down what you can in explanation of this statement.

Valuer—1, 10; 2, 10; 3, 10; 4, 10; 5, 10; 6, 12; 7, 10.

FOURTH BOOK AND SPELLING.

TIME—ONE HOUR AND A HALF.

1. (*a*) Give an epitome of the lesson entitled "The Death of Montcalm."

(*b*) Who were Montcalm and Wolfe, and how came they to be engaged in hostilities against each other?

2, Describe in your own words the battle of "Thermopylæ", giving the date and location of the event.

3. "Then followed nearly half a century in which France manifested little interest in these transatlantic possessions,—being too much occupied with civil dissensions within her own borders. This internal discord being brought to an end by the elevation of Henry IV. to the throne, attention was again turned to the regions of the west. In the year 1603, Champlain sailed for Canada, thus beginning a course of labors of the deepest interest to the rising colony. He organized a system of trade with the Indians; he formed amicable confederacies with them, or humbled them in war by the superior science of European civilization. He fostered settlements of his countrymen, and laid the foundation of Quebec, in which city he was buried, in the year 1635. In the meantime, while France was consolidating her supremacy over the region traversed by the St. Lawrence, she had also gained an established footing in the territory bordering on the ocean—the present Nova Scotia, to which she gave the name of Acadia. In that country, as well as in Cape Breton, little French communities were being formed, and forts erected for the purpose of protection and defence."

Explain the following words and phrases in the above extract:—half a century, manifested, transatlantic, dissensions, borders, internal, regions of the west, colony, organized, Indians, confederacies, fostered, in the meantime, consolidating, supremacy, traversed, footing, Nova Scota, communities, erected.

4. "Some words, similarly spelled, are distinguished by accent; others, similarly pronounced, are distinguished by spelling."

Apply this rule to the following:—adds, adze; air, e'er; council, counsel; courtesy; essay; digest; gallantry; present; ant, aunt; not, knot; dun, done; halve, have.

Values—1, 25; 2, 15; 3, 20; 4, 12.

ENGLISH GRAMMAR.

TIME—TWO HOURS.

1. What is meant by the term 'alphabet'? "The consonants may be arranged under the heads—Labials, Dentals or Palatals, and Gutturals." Enumerate the consonants belonging to these classes, and account for the names, 'Labials', 'Dentals', &c.

2. Enumerate the inflected Parts of Speech, and give the inflections of each with examples.

3. "Number is a variation in the form of nouns and pronouns, by which we shew whether we are speaking of one thing or more than one." Give examples, shewing that this definition is inaccurate.

4. "Some English nouns are used in the singular only; others, in the plural only; others have one meaning in the singular and two in the plural; others have two meanings in the singular and one in the plural."

Give two examples of each class.

5. (*a*) Pluralize—beau, genius, chimney, lady, hoof, wharf, memorandum, cherub. (*b*) Give the feminine of—abbot, songster, beau, czar, executor, drake. (*c*) Compare—beautiful, happy, bad, ill.

6. "The *English-speaking* people of *England were conquered* in *the* eleventh century by the *Normans*, a French-speaking *people*; and by the mixture of the *two their* speech *also* came to be *somewhat mixed, so that* a part of our *English* comes *from* Germany and another part *from* France, *to say* nothing of the words we *have gathered* from *other* sources.

(*a*) Analyze from 'The English-speaking' to 'mixed.'

(*b*) Parse the words in italics.

7. Make the necessary corrections in the following sentences, and give a reason for each change:—

(*a*) More than one emperor has prided himself on his skill as a swordsman.

(*b*) He was a child of six years old when he seen the comet.

(*c*) I feel coldly this morning.

(*d*) Can you see a red and white flag? I can see neither.

(*e*) Whom do you think called on me yesterday?

(*f*) Shakespeare is greater than any dramatist.

(*g*) He is not one of those that interferes in matters that do not concern him.

Values:—1, 10; 2, 8; 3, 4; 4, 9; 5, 9; 6 (*a*), 6; (*b*), 34; 7, (*a*), 4; (*b*), 4; (*c*), 2; (*d*), 2; (*e*), 2; (*f*), 2; (*g*), 4.

COMPOSITION.

TIME—ONE HOUR AND A QUARTER.

1. Write a short letter to a gentleman in Toronto, describing the locality in which you live.

2. Paraphrase the following stanza, *i. e.* give its meaning in other words;—

"Few, few shall part where many meet;
The snow shall be their winding sheet;
And every turf beneath their feet
Shall be a soldier's sepulchre."

3. Express in another form—"I wish," said my uncle Toby, with a deep sign, "that I was asleep." "Your honour," replied the corporal, "is too much concerned."

4. Distinguish the meaning of the following:—

a. { He had a taste of tobacco.
He had a taste for tobacco.

b. { Few men have been more unhappy.
A few men have been more unhappy.

c. { The secretary and the treasurer will be appointed.
The secretary and treasurer will be appointed.

d. { He was happier than any poet.
He was happier than any other poet.

e. { Fetch me the book.
Bring me the book.

f. { I will go.
I shall go.

5. "Every one," said the teacher, "was cross." Punctuate the foregoing so as to convey a different meaning, and explain the sense according to punctuation.

6. Embody the following statements in a simple sentence:—
Martin Luther was at first destined for the legal profession.
Martin Luther was born at Erfurt, in Saxony.
Martin Luther was born in the year 1484.
Martin Luther was the son of a miner.

7. Express, by using passive forms of the verbs—"Cæsar, having conquered ths Gauls, led the forces to Rome."

Values:—1, 20; 2, 8; 3, 10; 4, 12; 5, 6; 6, 12; 7, 4.

GEOGRAPHY

TIME—ONE HOUR AND A HALF.

1. Tell what you know about the earth's shape, size, motions and distance from the sun.

2. What place has latitude 0° and longitude 0°? In about what latitude do we live? Where do all meridians meet? Where is a degree of latitude longest? What zone is Ontario in? How many degrees broad is the torrid zone?

3. Bound the Dominion along the south from ocean to ocean. Give the provinces of the Dominion, their capitals and positions. Put down in order the names of the rivers, lakes, canals or rapids through which a vessel passes in a voyage from Duluth to Quebec.

4. Tell what you know about the chief seaports of the Dominion.

5. The province of Ontario is partly bounded by Lake Ontario. Draw a line indicating the course of this boundary, and mark the position of the principal towns and cities.

6. Define—Delta, Oasis, Longitude, Zenith, Horizon, Zone, Watershed.

7. Where and what are the following:—Alexandria, Blanc, Capricorn, Euphrates, Iowa, Jersey, Kars, Land's End, Potosi, Queenston, Riga, Madeira, Congo, Vienna, Tel-el-Kebir, Hobart Town, Funen, Heligoland, Arran.

8. State the population of the Dominion, and mention the chief exports of each province.

Values:—1, 6; 2, 6; 3, 16; 4, 6; 5, 6; 6, 7; 7, 19; 8, 6;.

DICTATION.

TIME—TWENTY MINUTES.

(Two marks to be deducted for every misspelled word.)

Turning to the Southern Continent, we find at least two of the peoples inhabiting it provided with similar substitutes. In Brazil, two plants belonging to the verbena family are made use of sometimes to adulterate Chinese tea, but more frequently to usurp its place altogether. One of these is sold extensively in the Austrian dominions, under the name of Brazilian tea; the other is highly esteemed by the South American people. It is known by the name of matè, and flourishes in the republic of Paraguay, whence it is called Paraguay tea. Even in the Eastern Hemisphere, the Chinese shrub is not allowed to have it all its own way. The Malays of Sumatra and the other islands of the Eastern Archipelago, as well as the Australians, employ the leaves of certain trees of the myrtle family, one of which they call "The tree of long life," in the same manner as more civilized peoples their pounds of tea and coffee.

Value, 22.

Practical Department.

THE PROBLEM OF TEACHING TO READ.

BY J. M. D. MEIKLEJOHN, M.A.

(Continued from last month.)

To put all this in a few words: *The character of our Notation prevents the formation of habits.* How serious a matt r this is in education, how serious an expense it is to the country, a little reflection will show. The whole aim of Education is to form habits. Habits are formed by the perpetual repetition of small acts of the mind or of the body; and the more often these acts are repeated, the more easy it is to perform them, until at length they become a part of the spontaneous nature, and are performed with perfect ease and pleasure, and beneath consciousness. In other words, *power* has been produced; and the exercise of power is always accompanied by a reflex of pleasure—stronger or weaker according to circumstances. But not only is power produced by the repetition of innumerable acts of attention: a method or *path* is beaten through the subject itself by this perpetual treading of the feet of thought; and the trained child can use the knowledge he has gained for the conquering of the unknown. He does not need to be *told* this and that and the other thing; he knows himself how to *learn*—he has a method; and he takes hold of every new appearance by the right handle. But these perpetual inconsistencies, these constantly recurring self-contradictions, this interminable challenge to the child not simply to recognise so many letters, but to ask himself what is their value here and there—to ask himself whether he must not ignore and cut them altogether—prevent the growth of habit, the production of power, the formation of a path or method. They almost compel both teacher and pupil *to learn every word as a separate and individual entity*—just as he learns to know men and women. If, when the symbol varies and the sound remains the same, the child cannot believe his eyes; and when the sound varies and the symbol remains the same, he cannot believe his ears; and if the eyes and the ears are the two main avenues to knowledge, it follows that we begin the mental education of most of our children by demoralising and confusing these two all-important organs. We invite the children to walk in what ought to be a plain path—the smooth and delightful road to the city of knowledge; but this path is strewn with rough historic boulders, which delay their goings and weaken their intellectual limbs. For, as I have said, most of the letters have only geographical values; and the young child's mind has to solve the difficult practical problem of Sir Boyle Roche, and to be 'in two places at once.'

The two sets of difficulties I have described so interlace with and ramify into each other, as to entirely prevent the formation of habit. In fact, they destroy mental habit, and habit, as has been said, is power; and these two difficulties really go therefore to paralyse all mental power in the child—so far as reading is concerned. The logical conclusion that our English children must learn each word as an individual, is borne out by the fact that they do learn to read in this way. Every person I have spoken with—

H. M. Inspectors, Teachers, Managers, and many others—have expressed to me their conviction that English children learn their words as separate and individual existences; and many of them go farther, and affirm that classification is useless, if not impossible. Thus, for the child, our language sinks nearly to the level of Chinese. The essence of European thinking is classification; but, o far as the notation of our language is concerned, we are out of the European sphere. And it is this tedious and mindless process that costs the country so much: the improvement of our methods would result in an enormous cheapening of the process. This is a consideration which cannot be too earnestly pressed upon the attention of the education department, school boards, and school managers. In the schools I have visited in every part of the country, I have always found both teachers and children working with far too much strain against these difficulties, beating up against contrary winds, driven hither and thither by the cross currents and chopping seas of our different notations, and accumulating solid and trustworthy experience—at the expense of the country—in the slowest and most laborious possible fashion. Just as twenty-five per cent. of base or depreciated coin thrown into the circulation of the country would upset all commerce, and turn bargaining into barter or merely individual transactions, the twenty-five per cent. of anomalous notation (and this is a very moderate estimate) turns almost all the mental effort of the child into a momentary shift—into a series of hand-to-mouth transactions. In other words, the child cannot accumulate experience with ease or economy; he is constantly meeting with new complications which his past experience cannot unravel—in fact, he works as if he had no past, or—what is worse than no past—a past of broken habits and loose perceptions, behind him. No wonder that the lower classes find it difficult to learn to read; and that even the middle classes find it difficult to learn to spell.

There is a passage in "Alice through the Looking-glass" which describes, as if in a parable, the difficulties felt by most children in heir attempts to master the reading of our mother-tongue.

"Whenever the horse stopped (which it did very often), he fell off in front; and whenever it went on again (which it generally did rather suddenly), he fell off behind. Otherwise he kept on pretty well, except that he had a habit of now and then falling off sideways; and, as he generally did this on the side on which Alice was walking, she soon found it was the best plan not to walk *quite* close to the horse.

"I'm afraid you've not had much practice in riding," she ventured to say as she was helping him up from his fifth tumble. The knight looked very much surprised and a little offended at the remark. "What makes you say that?" he asked, as he scrambled back into the saddle, keeping hold of Alice's hair with one hand, to save himself from falling over on the other side.

"Because people don't fall off quite so often when they've had much practice."

"I've had plenty of practice," the knight said gravely; "plenty of practice!" Alice could think of nothing better to say than "Indeed!" but she said it as heartily as she could. They went on a little way in silence after this, the knight, with his eyes shut, muttering to himself and Alice watching anxiously for the next tumble.

"The great art of riding," the knight suddenly began in a loud voice, waving his right arm as he spoke, "is to keep"—— Here the sentence ended as suddenly as it had begun, as the knight fell heavily on the top of his head exactly in the path where Alice was walking. She was quite frightened this time, and said in an anxious tone, as she picked him up: "I hope no bones are broken?"

"None to speak of," the knight said, as if he didn't mind breaking two or three of them. "The great art of riding, as I was saying, is—to keep your balance properly. Like this, you know"—— He let go the bridle, and stretched out both his arms to show Alice what he meant, and this time he fell flat on his back, right under the horse's feet.

"Plenty of practice!" he went on repeating all the time Alice was getting him on his feet again. "Plenty of practice!"

"It's too ridiculous!" cried Alice, losing all her patience this time. "You ought to have a wooden horse on wheels, that you ought!" "Does that go smoothly?" the knight asked in a tone of great interest, clasping his arms round the horse's neck as he spoke, just in time to save himself from tumbling off again. "Much more smoothly than a live horse," Alice said, with a little scream of laughter, in spite of all she could do to prevent it. "I'll get one," the knight said thoughtfully to himself. "One or two—several."

'The great art of riding is to keep your balance properly;' and the great art of reading is to know when to give this sound, and when to give another sound to the same letter, and to keep your mental balance among al his confusion. Alice 'found it was the best plan not to keep *quite close* to the horse;' and children very soon instinctively learn that it is the best plan not to keep *quite close* to the letters, but to be ready to give a new sound to the old friends at discretion or indiscretion. And thus a want of firmness, confidence, and mental clearness is generated which probably delays the acquisition of other subjects, and which may in fact stick to the pupil all his life. For the attitude of the mind in learning to read English is not a simple one—like the mental attitude of the German child. It is a threefold state of mind. The child has to do not one thing, but three things:

1. He has to notice when he must *not* notice (in the case of *silent* letters);
2. He has to notice when he must alter his translation of a symbol—or be *false* to his past experience;
3. He must notice when to give the old translation, or keep *true* to his past experience.

It is very difficult to make one set of movements with the right hand, and a different set with the left; but if we had to keep up a third and still different set of movements with one of the feet, it would be a very slow and difficult thing to learn.

The language contains more than 1300 words the notation of which is not in harmony with the pronunciation; and these 1300 words are the commonest—the most in daily use. Of these, 800 are monosyllables—and these, too, in most common use—words like *too*, *said*, *they*, *brought*, *one*, and *once*. The problem of teaching to read a true notation, is to train children to co-ordinate with and fit to the *eye-language* (the printed symbol), which they do not yet know, the *ear-language*, which they have known from their earliest days. But what if the eye-language refuses to be fitted to the ear-language? What if they have long bid each other good-bye and taken separate paths? What if the task becomes for the child a merely arbitrary and entirely forceful linking of the one to the other?

The important question now arises: *Is there an antidote to this state of things?* The two diseases or malformations in the language are plain to every one; and they are perpetually present to the elementary teacher. What are we to do?

The analogy in human affairs points to the fact that the presence of a great defect in one direction, points to the presence of a great power in another direction; and the question arises: Is there, for the enormous deficiencies and absurdities in our notation, some countervailing advantage in the language?

I believe there is an antidote—a very simple, but a very effective one. The antidote is to be found in the language itself. It is easy, by the invention of diacritical* marks, to guide the child to the ordinary pronunciation; but then these diacritical marks are

* Such marks, I mean, as are used to indicate silent letters, &c., &c.

themselves a new notation. The cure is not to be found in that direction. The language is poor in letters; but it is rich in words. The wealth of the vocabulary may make up for the poverty of the alphabet. There is no more common experience in the writing of English than the quickness which the mind soon acquires in rejecting this phrase and preferring that—in substituting one word for another, in selecting, among a number of candidates, the aptest word for the purpose. There is probably no European language with so many different words for the same notion; and it is quite possible to write one's ideas in two perfectly different kinds of English—Latinised English or pure English. This then raises the hope;—is it possible that, by conscious selection, we should come to write English which should present no difficulties to the learner, and which should be printed in a self-consistent notation?

(*To be continued*).

LANGUAGE LESSONS.

INTRODUCTION.

To teach pupils to think and to express their thoughts in good language is admitted by all to be an essential school duty. But how they shall be taught to think, has been often overlooked; still oftener, how shall they be taught to express their thoughts.

As a rule, pupils do not think severely while pursuing their studies, because they can so much more easily commit to memory enough of their daily lessons for the purposes of the recitation; and the lesson well recited is too often considered sufficient. Again: they fail to think because from their first entrance into the school they have not been taught to enlarge their vocabulary, or how to classify, and express in their own language, the ideas that are crowded upon them from day to day. Hence the necessity not only of requiring pupils to think, but also of securing good expression of the thought.

The child from six to eight talks freely and fearlessly, so far as being retarded by any doubt of the correctness of his language is concerned; but, as a rule, from this period thought and expression are hampered by lack of fitting words, or aptness in arranging those at his command. This is a result of learning to read by a method which presents a multitude of ideas that do not accord with his habits of thought; or rather, do not take a natural place in his thoughts. A legitimate result of teaching by the old alphabetic method, with no effort made to connect the new ideas with those of his daily life, is that monotonous, high-pitched drawl which, having become habitual, is so difficult to correct. Such results are easily avoided by the use of the word and phonic methods, accompanied by familiar conversations upon the ideas found in the lessons from the first day of school. There is perhaps no period of life when so many new ideas are poured in upon the mind as during the first few months at school. For this reason special efforts should be put forth to have the pupils' ability to use and express those ideas keep pace with their acquisition.

To aid in this, language lessons are devised by which the pupil is expected to gain information, to gain a larger vocabulary, and especially to study out the best methods of expressing ideas.

To the teacher of this work we would say, that, to secure the best results, the work should be frequent, easy, and attractive, but thoughtful. The gaining of ideas, learning of words, and facility in expression, must keep pace with each other. No rules or directions can be given that will apply to all cases. Perhaps in no other study is it so essential that the teacher should have an active sympathy with the pupil, and the pupil a thorough confidence in the teacher.

By too great exactness, too much formality, and in numerous ways, the interest in the work may be destroyed. By just what means the pupils are to be drawn out into regular and enthusiastic action is in each instance a new problem. But the skillful teacher will solve it. In applying the work which is to follow in a few brief articles, the teacher will find that a degree of perseverance and enthusiasm, together with discretion, will often lead to excellent results when least expected. The teacher should let the pupils join her in a pleasant criticism of the errors made by them either in talking or writing; but dealing with errors made by those outside the school-room, as well as with those collected in grammars, should be avoided. It is better to spend the time in reading and discussing the thoughts of good authors and their manner of expression.

Pupils can learn more by studying a good model than by trying to imporve a bad one. Take a little time each day for the presentation or discussion of topics. In ungraded schools, divide the pupils into a few divisions, and present the work to each separately.

Neither the simplest exercises nor the more advanced essays can be written until there is material for the writing; hence be sure that the pupils are well informed, and then be sure that the work is well done.

It is not expected that the following exercises will be taken up in any school in the exact order given here. The teacher must judge as to the proper work to give a class, the number of times it be given, and much other minutiæ that can only be determined upon when the conditions are fully known. The teacher alone can do this. The amount of explanation, of giving information, of personal assistance, and of criticism will vary much for the different grades, and will require great care and discretion, especially on the part of the country school-teacher who has all grades. But remember the old maxim, "Never tell a child that which he can find out himself;' only be sure that he has the means and opportunity for finding out, and that he does it.

FIRST YEAR.

By skillful questioning and pleasant conversation about things of interest to the pupils, the teacher may beget such a feeling of ease and confidence on their part that they will talk freely.

So essential is this confidence that, if necessary, the teacher must for a while sacrifice other objects to secure and retain it. Criticism must be guarded; even serious faults in articulation and choice of language may often be overlooked. Liberal praise for good work and correct expressions will excite the ambition and strengthen the confidence of the pupil, while severe censure may do much harm. A quiet repetition of an inaccurate sentence, in correct form, is often more effective than more direct criticism.

If the pupils are animated and eager to ask and answer questions, a good beginning has been made. The following exercises are suggestive merely. Supply others of a similar character, taking care that they are not beyond the easy comprehension of the pupils.

1. Begin the language work with the first reading lesson. Ask questions about the picture which illustrates it—a cat for example. Get the pupils to tell about their cat at home. Show them the printed word *cat*, and ask them to find the word in other places on the page; then follow with some general talk about cats, or other things that are of interest to them.

2. In subsequent lessons continue the talks about the pictures, etc., leading them easily to the succeeding words; and take up other things, such as asking them to give the names of several things in the room. Ask them the uses of such things, or any other questions likely to excite interest and discussion.

3. Ask for the names of things which they can see out of doors. Get them to talk about the form, color, use, and other plain qualities of each.

4. Ask for the names of some things at home. Find out something about each.

5. Ask for the names of as many things as they can remember having seen while coming to school. Ask them which were alive, which were made by man, which could walk, crawl, fly, or swim. Ask them to remember and be ready to tell the next morning what they saw on their way home or to school.

6. Ask for the names of things which they can see that are black; also for the names of some which they cannot see. Find out some other quality of each. In the same way take up some of the common colors, such as white, red, green, blue, and yellow.

7. Ask them to tell you what they do at home, at school, on Saturdays, etc.

8. Ask for the names of some animals which they have seen, and have them tell what each can do.

9. Ask for the names of birds. Have them tell what birds they have at home, and what the birds can do. Ask them if chickens ducks, etc., are birds. Have the birds and animals described as far as possible as to size, color, habits, etc. Ask which runs, which can swim, which can fly, etc.

10. Ask them to find the picture of an animal in their books, and to tell what it is doing. Have them tell what else they find in the pictures, and how many have seen the things pictured, and where they saw them.

11. By means of a rule develop the idea of a foot, and of an inch, and have the pupils compare objects within their sight as to size, shape, etc.

12. As early as possible have the pupils write their names, name of town, county, and state; also short sentences from dictation; as, I can play ball, I can pile wood, I can write a letter to —— who lives in ——.

SECOND YEAR.

1. By the comparison of objects, when possible, develop the use of words of comparison; such as good, better, best; long, longer, longest; soon, sooner, soonest. After a number of oral exercises' with the objects and without, write on the board sentences in which spaces for words or quality or comparison are left blank, requiring that such blanks shall be filled correctly. *Examples:* The apple is ——. The bird flies ——. John is —— than his brother. That maple is the —— tree in the yard.

2. Have the full name of one of the pupils written on the board, then teach the meaning of family or surnames, the given or Christian name, also the term nickname. Have the names of the town, county, state, and country in which they live also written on the board, and by the pupils on their slates, on several different days Require in this practice the proper use of capitals and punctuation.

3. Teach also the use of capitals at the beginning of sentences, and that I and O are always capitals when written alone.

4. Teach the use of the hyphen in compound words, and words divided at the end of the line.

5. As early as practicable the pupil should write short sentences from dictation; as, I can see a chair; I can play ball and horse; I can pile up wood.

6. Have the pupils write from memory very short or simple stories that have been read or told by the teacher.

7. Have the pupils write about visits to town, to a fair, or what was done last Saturday, or what they would like to do next Saturday.

8. Let them tell or write what things they would like to have, and what they would do with them.

9. Have them write letters to each other describing things at home, at school, what was done on some holiday, etc. See that proper headings and endings are used; as,

Dear George—

What did you do yesterday? I went with Henry to see his cousin John, and we, etc. Your friend, JAMES.

10. By the means of questions get the pupils to name the parts of the head, face, arms, hands, legs, and feet; also the motions of each; as raising, bowing, shaking, nodding, and turning the head; bending, stretching, twisting, folding, swinging, and thrusting the arms; walking, hopping, skipping, jumping, dancing, kicking, and other motions with the legs. Avoid strictly technical terms for the parts of the body, unless they are such as are used in common conversation.

11. Require pupils to write sentences using one of the following words in each; marbles, picture, nest, kite, etc. Afterwards give them lists of words, two or three of which shall be used in each sentence; as horse—cow, tree—road, fire—water, story—in reader—boys.

12. Encourage the pupils to bring plants and other objects, such as can be used to illustrate the terms root, stalk, branch, leaf, bud, flowers, fruit, seed.

13. As much as possible by use of objects, teach pupils such qualities as square, round, triangular, straight, curved, crooked, irregular, rough, smooth, plane, hard, soft, sticky, and brittle. Have the objects in the room described by means of these terms until they can use them readily.

14. In brief lessons teach the modifications of the common colors by means of the words light and dark; as light green, dark blue, etc.; and have these terms used in the description of objects.

15. Require each of the class to write as many sentences as he can about some object which he can see and examine; as table, chair, knife, etc.

Note.—These exercises are not intended as single lessons. Many of them contain material for several. The inexperienced teacher will be likely to undertake too much rather than too little in a single lesson. Time should be spent on this work every day, but it should be short, perhaps not more than ten minutes at a time.—*W. R. Comings and H. C. Knox, in Ohio Educational Monthly.*

PROFESSIONAL RESPONSIBILITY.

The following extract is from *Our Public Schools*—London, 1881. We hope the writer's remarks on Eton do not apply too exactly to some "persons in high places" in Ontario.

"After a lapse of twelve years, it may not be presumptious to ask how these high expectations have been fulfilled. Dr.——had a fair field and considerable favor, and one not unnaturally looks to see what he has done in it. The numbers of the school have not fallen off.. ... But these outward and visible achievements are not adequate symbols of a head master's success. It is scarcely within the compass of human incompetency to keep down the numbers of a school which is fashionable among most parents who have money to squander. A genuine interest, and a real knowledge of what the conditions and circumstances of a school are, lead to the examination of other than statistical signs.... We challenge contradiction when we say that discipline has never been at so low an ebb as it is now.....But there are other things as important as discipline. The head master is personally entrusted with the teaching of the first thirty-two boys in the school, including in almost every case those who obtain open scholarships at Oxford and Cambridge. Such a task is of the greatest delicacy and importance, and it is one which it might be thought that any man with a heart or a head would value greatly and discharge conscientiously. But there are persons in high places who have to learn that the responsibility of a teacher is not discharged by a mechanical adherence to routine, and that indifference far more than inaccuracy discourages the aspirations and impedes the progress of a student. How people who do not take an intense interest in the minds and characters of boys (and students) contrive to endure the drudgery of teaching, we cannot pretend to understand. Sure we are that there is no influence more deadening to the intellectual life, and paralyzing to the advancement of a great school than that it should be presided over by a man who fulfils his duties in the dead letter and violates them in the living spirit, who administers instruction according to the contract, and cares not how it is received, who, if we may slightly alter the words of Prior, in dealing with those that are set under him,

Is to their virtues very blind,
Is to their faults a little kind,
Lets all their ways be unconfined,
And claps the padlock on their mind.

THE TEACHER'S "NECESSARIES."

Locke says—"The greatest study of mankind is man;" our first great object should be to know ourselves, and by this means to become thoroughly satisfied that we possess the powers necessary to make sucessful teachers. I use the term *successful* advisedly, for if we have not a natural aptitude to teach, nor a goodly share of those qualities that are essentially requisite in a successful teacher, we make a grave mistake by even entering on this, the most trying of all professions.

We must have *method;* for without place and order there can neither be rapid advancement nor any satisfactory result from our labor.

We must have *memory* or the pow r of accurate remembrance; our knowledge should be laid up in regular places in the brain, like shelves in a store-house, to be called upon for use at will.

We must have *prudence;* we should not judge hastily, nor condemn lightly.

We must have *originality*, and boldly strike out new paths for ourselves, when we find that old methods are unsatisfactory in their results.

We must have *sympathy;* without love for children our rule will simply become one of brute force, than which there is, perhaps, nothing more harmful to the better qualities of the heart in those governed. If the moral as well as the mental faculties be not truly educated, our teaching is a failure.

We should aim at making good men and good women, not walking encyclopædias. The work done in this direction among boys, by perhaps the most distinguished and successful teacher of this century—Dr. Arnold of Rugby—furnishes us with a useful lesson

We must have *self-reliance*, and *perseverance;* be sure we are right then go ahead without fear or favor.

Finally, we must have *good principles;* if we are true gentlemen and true ladies our efforts will be successful in really *educating* (in the highest sense of the term) those intrusted to our care.—*J. A. Wismer, Parkdale, Ont.*

Promotion Examinations.

WEST MIDDLESEX PROMOTION EXAMINATIONS.

READING.

SECOND TO THIRD CLASS.

1. Tell in your own words the story of "Brave Bolly."

2. Write two verses of "Things to be kept in mind." Give the meanings of employment, infants, and ascend.

3. "Open your hospitable door,
And shield me from the biting blast;
Cold, cold it blows across the moor,
The weary moor that I have passed."

What is meant by hospitable door? Give the meaning of the second line. Name the marks used before open, and after passed.

4. Compose four sentences: the first having a question mark at the end of it; the second a period; the third showing you know how to use quotation marks; the fourth must have a capital letter and a comma.

5. Give another word, or words that mean the same as remembering, composure, distracting, persevere, perceived, finally, cobbler, sedate, resided, envied.

6. Carefully write one verse from each of the following: "By-and-By," "A little word," "My father's at the helm," "Evening Hymn," "The child's first grief."

7. What words would you change in these sentences:
1. Him and me did it.
2. I begun my lesson.
3. It wasn't me that flied the kite.
4. What like of a book is that?
5. There's the men.

Six questions a full paper.

THIRD TO FOURTH CLASS.

1. Tell in your own words the story of "John Adams and his Latin." Write a sentence containing the words abominable and distinction.

2. Give the meanings of "huge recess," "precipice," "remote," "cultivate." Write the verse in which these occur. Where is Helvellyn?

3. If e'er thy breast with freedom glowed,
And spurned a tyrant's chain,
Let not thy strong oppressive force
A free-born mouse detain."

What is the meaning of the first line? Of the second? Give the reason of the marks used in o'er, tyrant's, free-born.

State clearly the meanings of italicized words:
1. The beaver is the *original lumberman.*
2. They are not *addicted to works of supererogation.*
3. Their great *original* proclaim. How do they do this?
4. Move round the dark *terrestrial ball.* What moves round?
5. They are fit for neither *warriors* nor *councillors* Who were not fit?

5. Write some Indian rules of politeness. Give six rules of politeness practised in your school.

6. Jesus asked the lawyer two questions, and the lawyer asked him two. Write out these questions in full and their answers.

7. Why is the 1st of June a glorious day in the annals of the British Navy? State the leading points in the fight between the Chesapeake and the Shannon.

Five questions well answered a full paper.

ARITHMETIC

SECOND TO THIRD CLASS.

1. From one million take eight hundred thousand and sixty one. Prove your answer (1) by addition (2) by subtraction.

2. The mutiplier is 3897, the product 2922225530049; find the multiplicand.

3. Find the value of 69225510—1382 divided by 187 + 496 + 375 + 897 + 690 +107.

4. By using factors, solve the following questions:
(*a*) 769387 × 72.
(*b*) 610983 ÷ 108.
(*c*) 916873 × 88 ÷ 42.

5. How many pounds of tea at 89 cents per pound can be bought for 178 boxes of fruit worth $5.89 per box?

6. A has 4278 dollars more than B, and 1225 dollars less than C, who has 7864 dollars? and D has as much as A and B together. How much has D?

Full work required. Five questions make a perfect paper.

THIRD TO FOURTH CLASS.

1. Cameron has manufactured in four years 2236 pair of shoes, making each successive year 180 pair more than the year before; how many pair did he manufacture the first year?

2. Find the highest common factor of 14385, 20319 and 49287.

3. John's money equals $\frac{9}{11}$ of $1999, and John's is $3\frac{1}{7}$ times Tom's; how much money has Tom?

4. Compare these fractions, $\frac{8}{9}$, $\frac{11}{12}$, $\frac{23}{24}$, $\frac{47}{48}$. Find the sum of the greatest and least, the sum of the other two, and the difference of these sums.

5. Simplify the following expression:
$$2\tfrac{1}{2}+(3\tfrac{1}{2}-\tfrac{1}{4})\div(3\tfrac{1}{2}+\tfrac{1}{4})-2\tfrac{1}{5}\text{ of }\tfrac{11}{13}-\tfrac{5}{7}.$$

6. What is the least number that must be taken from $71\frac{1}{2}$, so that the remainder may exactly contain $7\frac{1}{7}$?

7. Reduce $\frac{7}{13}$ to an equal fraction whose denominator is 21 more than its numerator.

8. Name each of these fractions, $\frac{2}{3}$, $\frac{7}{7}$, $\frac{21}{10}$, $\frac{3}{4}$ of $\frac{9}{12}$, $\frac{2\frac{1}{2}}{3\frac{1}{3}}$, $7\frac{1}{5}$. Find their sum and product.

The work must be well indicated. Six questions make a complete paper.

GEOGRAPHY DRAWING, OBJECT LESSONS, WRITING.

Geography.

SECOND TO THIRD CLASS.

1. Define cape, sea, continent, ocean, strait. Name five divisions of land, and five of water that don't flow.

2. Name the townships of Middlesex. State the name of one railroad in each. Also give the incorporated villages. Answer this question by a table of three columns headed Township, Railroad, Village.

Drawing.

1. Make as nice a map as you can of the County of Middlesex, Show on it the boundaries of townships and their names, the railroads and villages.

Object Lessons.

1. In ten sentences tell the most important facts you know about the whale.

2. Where are elephants found? How are they caught? Describe an elephant as well as you can. Tell why they could not live in Middlesex.

Writing.

1. Make the first ten capital letters.

2. Open Second Book at page 210, and write the last paragraph of the lesson about "The Liar and the Truthful Boy," from trusting to truth. Put in all the marks.

GEOGRAPHY.

THIRD TO FOURTH CLASS.

1. By means of a table having three columns, give the state and part of the state in which each of these is situated: Milwaukee, Chicago, Memphis, Mobile, Sacramento, Rochester, Cincinnati, Detroit, Cleveland, and New Orleans.

2. Give the names and direction of each of two rivers which empty into Superior, Ottawa, St. Lawrence, Mississippi, Amazon. Tabulate your answer.

3. One stream discharges its water into another. How would you determine which is the tributary? Illustrate by a diagram and get the material for your answer from question 2.

4. In the order of their distance from Sarnia, arrange Toronto, Quebec, Halifax, Barrie, Clinton, Woodstock, Brandon, Winnipeg, Duluth, and Victoria. If you think it easier, arrange the order of their distance from the Atlantic ocean.

5. What waters border on Essex? Why is Essex such a good grape-growing county? If you say because it is one of the warmest, tell why it is the warmest?

6. A badly taught boy says, "The North Pole is in London," and that "The Equator passes through New York." Prove that his statements are wrong.

7. Explain fully one of the following: Cause of day and night winter and summer; Rain; days longer in summer than winter; north winds being cold or south winds being warm.

Five questions make a full paper.

WRITING.

THIRD TO FOURTH CLASS.

1. John Henry bought goods from Murray & Co. amounting to $37.90. He paid on the account $21, and gave his note at three months for the balance. Write the receipt and the note. Both live in Strathroy.

2. Carefully write all the capital letters.

3. Transcribe the following:

Deep in unfathomable mines
Of never-failing skill,
He treasures up His bright design
And works His sovereign will.

4. What is meant by shading, sloping and spacing? State the height of each small letter occupying more than one space.

Questions 2 and 3, well answered, count a full paper.

DRAWING AND OBJECT LESSONS.

Drawing.

THIRD TO FOURTH CLASS.

1. Make a map of Ontario. Show the boundary lakes and rivers, and the cities with their connecting railroads. Print in their proper places, the names of cities, lakes and railroads.

This map is expected to be accurately and neatly drawn. This question was given for preparation weeks ago.

Whale, Elephant, Linen.

1. Name the commercial products obtained from the whale. State from what part of the whale each is taken, and the use to which it is put.

2. What is meant by spouting? Why can't the whale live under water? Tell how it feeds its young, and how it collects food for itself.

3. In a few sentences, not more than six, tell the most wonderful things you have learned about the elephant.

4. From what plant is linen obtained? From the time the plant leaves the ground till the linen appears in an article of dress, describe fully what operations take place.

5. How could you tell linen from cotton?

Four questions a complete paper.

CIRCULATION.

THIRD TO FOURTH CLASS.

1. What is an organ? Name some organs of the body that are hidden from our sight.

2. Where is the heart situated? How many cavities in it? Which side contains pure blood? What carries the blood to the heart?

3. How many lungs have we? Give their position and use.

4. Tell the difference in use and construction of veins and arteries. How do we know when one or the other is cut?

5. Make a drawing of the heart and show how the blood is sent to all parts of the body, and how it is brought back again.

Four questions make a full paper.

GRAMMAR.

THIRD TO FOURTH CLASS.

1. Re-write the following and omit the unnecessary words:

The man pursued after the deer.
He gave it to me free, gratis, for nothing.
Willie is certain sure to come.
That little wee mouse ate the cheese.
His potatoes were frozen hard last night.

2. Name the parts of speech. Form a sentence having all the parts in it. Tell which part each word is.

3. Correct the following expressions:

They aint got no apples.
My master learns me grammar and geography.
Neither him nor me seen him do it.
Jane is larger than any girl in her class.
There's three of us going to the fair.

4. Classify sentences. Give one example of each. How do you know what to place in the completion and extension?

5. According to scheme analyze

"Far down in the depths of the dark blue sea
An insect train work ceaselessly."

"A little girl, named Lucy, the daughter of a rich gentleman, was playing one day by the edge of a pond near her father's house.

"One hot summer day, a fox, parched with thirst, tried in vain to find some water."

"Bertha was a dear little girl, with brown eyes, curly hair, and merry ways."

SPELLING.

SECOND TO THIRD CLASS.

To be read slowly not more than three times.

1. Mousie cried, out "Oh!"
2. His wife didn't do a day's work.
3. Do not grasp at to much, or you may lose all.
4. Then Ann sings some pretty hymn.
5. Annie threw her arms about Alfred's neck.
6. Round we circle in a sphere.
7. Aunts and cousins came to see Susy.
8. She got a severe scolding for her pains.
9. I would shake them among almonds and carraway comfits.
10. He would not believe me again.
11. David was the youngest son of Jesse.
12. A giant defied all the men of Israel.
13. He wrote many beautiful psalms
14. Doesn't Lucy look pretty?
15. Two men were painting a ceiling.
16. They've caught and killed scores.
17. But the weight of his clothes began to tell on him.
18. Urchins stood by with their thievish eyes.
19. It tossed the colt's manes all over their brows.
20. Frolicsome, complaisance, acceded, brazier, grieve.

THIRD TO FOURTH CLASS.

1. He planted his talons round his adversary's throat.
2. What should appear but a miniature sleigh and eight tiny reindeer.
3. In vain wretched victim, for mercy you plead.
4. The beaver is too highly civilized for a nomadic life.
5. There sit, and now discreeter grown.
6. Everything was brought within the cattle-kraal.
7. My life was in imminent jeopardy.
8. It was something like the coo of a pigeon.
9. This act mutilated him for ever.
10. Rosoletta, the partridge, sat in a corner of the aviary.
11. Give words ending in able, ible, tion, sion, ous, ose.
12. Write six words pronounced the same as meat, in, there, blue, one, air.
13. Spell the names of the days of the week and the months of the year.
14. Give some words spelled with an apostrophe.
15. Nominative, Transitive, dulness, heifer, trousers, pepper, oak, Cairo, wreck, Falieri.

11, 12, 13, 14 should be written plainly on the board.

DIVISION No. 1, LAMBTON.

SPELLING.

FIRST TO SECOND CLASS.

Children must learn their lessons; in pretty colors; six months Charlie's sisters; broken her stick; friends thought; quite tame full of glee; truant; groom; rough, shoe, thread; means; bright blaze; written.

SECOND TO THIRD CLASS.

Chilled with hunger; church spire; pitch; muffler; guard chain; a couple of good sickles; galloped; feathers; yellow ca nary; repeated his challenge; guardsman; neighboring car penter's shop.

Page 189—So it swept.....gingerbread stalls.
Page 228—The gratitude of.....rich treasures.

THIRD TO FOURTH CLASS.

Foreign aggression; ignominious retreat; the schooner collided with the steamer; the collision occurred; exceedingly convenient; remnants of furniture; poison; comparatively; district; paroxy sm; dainties; propensities appalling; appealing; miraculous.

Page 237—A sortie.....and the shipping.
Page 83—Delighted.....many months.

FOURTH TO FIFTH CLASS.

Pithy telegram; received the message courteously; sieges, tri umphs, exploits; sculptured in alabaster; exhaustless munitions; enigmatical grimaces; miraculously supplied; legitimate claimants; principles of patriotism; contemptuous and severe.

Page 230—It is impossible.....insatiable desire.
Page 256—Seneca tells.....mighty stream.

Three marks deducted for each error in all classes.

GEOGRAPHY.

SECOND TO THIRD CLASS.

1. What is a river, lake, mountain, sea, continent? Give an example of each.
2. Name the countries of N. America, and the Provinces of Canada.
3. (*a*) Tell in what direction from the school does the sun rise; in what direction does it set.
   (*b*) Give the names of three cities, three towns, three villages.
4. Draw a map of Lambton; mark the railways; locate Wyoming, Watford, Alvinston, Thedford, Arkona, Forest.
5. Name the lakes around Ontario; and tell where we get oil, salt, gold.

Values:—1, 20; 2, 20; 3, 20; 4, 20; 5, 20.

THIRD TO FOURTH CLASS.

1. Name five largest rivers in America; also five largest islands, gulfs, and bays; and name the countries through which the rivers flow.
2. In what provinces of Canada are gold, coal, oil, salt, and timber obtained?
3. Name the States bordering on the Mississippi river, and those on the Atlantic ocean.
4. (*a*) Describe the Amazon and Mississippi rivers.
   (*b*) Name the countries of S. America, and capitals.
5. What form of Government exists in Canada, the U. States, Brazil, Peru, Ecuador?
6. Draw a Map of Canada, marking the boundaries of each Province as nearly as possible, and the principal rivers of each.

Values:—1, 16; 2, 3 x 4; 3, 8 x 2; 4, 10 x 2; 5, 3 x 5; 6, 21.

FOURTH TO FIFTH CLASS.

1. What is the general direction of the mountain ranges of the Old World? and name the largest river flowing into each of the following, viz.: Caspian, Black, Mediterranean sea.
2. Name the Kingdoms, Empires, and Republics of Europe, and the capital of each; the rivers of Asia, and the mountains of Europe.
3. Through what bodies of water would a ship sail in going from Bombay to Constantinople?
4. Locate Trafalgar, Land's End, Race, San Francisco, Milwaukee, Chicago, Montreal, Pictou, Golden Horn, Bordeaux, Brussels, Calcutta, Cairo.
5. Name the principal products of Canada, the United States, Brazil, England, and Russia; and the form of Government in each.

Each question in promotion from 4 to 5, counts 20 marks.

ARITHMETIC.

FIRST TO SECOND CLASS.

1. Add 4736 + 70894 + 19 + 1073645 + 987429.
2. Write in words, 906; 473; 510; and in figures, sixty-one; four hundred and three; one thousand and two.
3. How many bushels of wheat in three loads, each containing 47 bushels, and in four loads, each containining 93 bushels?
4. In a city there are five schools, in the first there are 789 pupils; in the second and third, each, 935: in the fourth, 1100; and in the fifth, 886. How many pupils in all?
5. From 390736492 take 298676397.
6. 73 + 96 — 48 — 17 + 92 + 15 — 106 + 3974 — 8.
7. A man put in the bank $238; and then put in $472, and then $684; and then drew out $997. How much has he left?

Values:—1, 15; 2, 6; 3, 20; 4, 20; 5, 15; 6, 15; 7, 9.

SECOND TO THIRD CLASS.

1. 90374005 × 9390800.

2. How much more will be given for 397 head of cattle at $57 each, than for 75 horses at $193 each?

3. If there are 12 ounces in a pound, how many ounces are there in 73694 lbs.?

4. Find the difference between the quotient of 14784, divided by 37 and 872127 divided by 999.

5. Write in words, 10010201401; and in figures, one million, twenty-three thousand and one. Add the numbers together, and from their sum substract their difference.

6. The divisor is 87, the quotient sixteen times the remainder, less 19; and the remainder is 47. What is the dividend?

7. A drover bought 364 sheep at $5 each; twice as many calves at $7 each; 23 cows at $47 each; and three times as many horses as cows at twice as much each. What did all cost him?

8. Find the number from which, if 13675 be taken, the remainder will be 45209, less 27645.

9. Of what number is 99995 both the divisor and quotient?

Numbers 1, 4, 9 to be absolutely correct, or no credit given.

Values:—1, 7; 2, 10; 3, 8; 4, 10; 5, 19; 6, 16; 7, 16; 8, 13; 9, 10.

THIRD TO FOURTH CLASS.

1. Find the H. C. F. of 1581227 and 16758766.

2. Find the least number which, divided by 13, 15, and 17, leaves a remainder of 12 in each case.

3. Simplify $4 \div [6 + 3 \div \{5 + 9 \div (2 + \frac{1}{4})\}]$

4. Find two numbers whose sum is $4\frac{1}{5}$ and difference $2\frac{4}{7}$.

5. How many times is £17 12s. $9\frac{1}{4}$d. contained in £1393 8s. $10\frac{3}{4}$d.?

6. What will 11 pecks 3 qts. strawberries cost, at $12\frac{1}{2}$c. per qt.?

7. A man spends $61.60 every 35 days, and saves $400 per year. What is his annual income?

8. Multiply 4987639 by 493437, using only three lines of multiplication.

9. If $\frac{4}{9}$ of a vessel be worth $13056, what is the value of $\frac{5}{8}$ of it?

10. From the sum $4\frac{2}{3}$ and $9\frac{1}{5}$ take their difference.

Values:—No. 1, 8; 2, 12; 3, 10; 4, 10; 5, 12; 6, 8; 7, 8; 8, 12; 9, 10; 10, 10.

FOURTH TO FIFTH CLASS.

1. On a railroad 149 miles, 234 rods, 4 yards, 2 feet long, there are 18 stations, including one at each end of the road. What is the average distance between the stations?

2. How many boards, 12 feet long and 4 inches wide, are required to floor a room 36 × 27 feet?

3. What is the cost of 73590 lbs. of coal, at $6.55 per ton of 2000 lbs.?

4. Paid $2225 for 180 sheep, and sold them for $2675. What should I gain on 1200 at the same rate?

5. A person after spending $\frac{1}{3}$ and $\frac{1}{4}$ of his money, and $20 more, had $80 left. What had he at first?

6. What is a Composite Number? Find the prime factors of $320; and the L. C. M. of $3\frac{1}{2}$, $4\frac{1}{3}$, and $\frac{5}{7}$.

7. A pile of wood is 6 feet high, and 4 feet wide. How long must it be to contain 10 cords?

8. Add 3.45 + 4.1627 + 9.32546.

9. Divide fifty-one hundredths by fifteen thousandths.

10. A man divided 367 acres between a son and daughter so that the son's share, plus 24 acres, was to the daughter's as 8 to 9. How many acres did each receive?

Each question counts 10 marks.

GRAMMAR.

THIRD CLASS.

1. Correct the following:—
   (a) the canadian pacific railway from emerson to brandon.
   (b) The chimnies was built of brick.
   (c) Uncle William has two son-in-laws.
   (d) There were a crowd of boys in the room.
   (e) Was that pen broke when I give it to you.
   (f) The banks of the river were overflown.

2. Write sentences containing the following words properly used:—
   (their, there) (two, to, too) (fair, fare) (hire, higher) (sailer, sailor.)

3. Analyse the following:—
   (a) A little old man dressed in tattered clothes passed by our door.
   (b) Having conquered Gaul, Cæsar sailed over to Britain.
   (c) Under her torn hat glowed the wealth
   Of simple beauty and rustic health.

4. Combine the following statements into a simple sentence:—
   A balloon is a bag.
   It is a thin bag. It is a tight bag.
   It is made of silk. It is generally shaped like a globe.
   It is filled with a fluid.
   This fluid is lighter than common air.

Values:—1, 18; 2, 30; 3, 30; 4, 22.

FOURTH TO FIFTH CLASS.

1. Name and define the different kinds of pronouns and adjectives.

2. When is a verb in the active, and when in the passive voice?

3. Analyse and parse the following sentence: Sin has a great many tools, but a lie is a handle which fits them all.

4. Write a sentence containing *that* as a relative. Also, one containing *that* as a conjunction.

5. Parse words in italics: He *could have gone*; *Have* I no *friend*? *quoth* he.

Values:—1, 12; 2, 8; 3, analysis 10, parsing 35; 4, 10; 5, 25.

HISTORY AND LITERATURE.

FOURTH TO FIFTH CLASS.

[To be supplied by the Teacher].

Notes and News.

ONTARIO.

Whitby has secured the services of Mr. Schrapnel as a teacher of drawing.

Industrial drawing is about to be introduced in the public schools, Oshawa.

R. B. Orr, M.A., formerly head master of Brighton high school, has taken a position in Whitby collegiate institute.

Port Hope high school, under the successful management of Dr. A. Purslow, reports the highest attendance it ever had.

The North-street school, Whitby, is progressing well under the careful management and tuition of Mr. Willis, who is an old and well-tried teacher.

We regret to learn that Mr. D. Stephenson, the energetic principal of one of the Cobourg public schools, has been suffering from congestion of the lungs

An increased amount of attention is now given to the study of botany in the high schools of Ontario. As this is left an optional subject, many lady students prefer it to algebra.

Mr. Charles S. McMain, an experienced and successful teacher, and for many years principal of Brougham public schools, has recently been appointed principal of the central school, Oshawa.

Two active, enthusiastic young teachers have been appointed to schools in Oshawa. Mr. J. H. Reid, formerly of Peterboro', has taken charge of Mary St. school, and Mr. W. A. Hoath, a graduate of Ottawa normal school, has become principal of Albert St. school.

W. W. Tamblin, principal of the high and public schools, Bowmanville, strongly advocates the separation of the supervision of these schools as conducive to better work and more effective results.

Mrs. Fraser has been appointed to the third room, Bowmanville public schools.

The intermediate class, under the tuition of W. E. Tilley, M.A., Lindsay, numbers 44.

Mr. T. M. Henry, formerly assistant in Brampton high school, i now second master in Port Hope high school.

Mr. R. M. Pascoe, fourth year man, Victoria University, has been appointed English master, Bowmanville high school.

The St. Catharines school board has arranged to have half-yearly promotion examinations, instead of yearly as formerly.

Mr. Narroway, late of Oshawa, has been appointed to the principalship of central school Belleville—*vice* Irwin—resigned.

The Protestant teachers of Montreal are endeavoring to have the Pension Act repealed as an injustice to the majority of the teachers.

We record with pleasure the re-engagement of Mr. J. Turnbull as head master of the Clinton high school, at an increase of $100 salary.

Two boys in the Belleville high school were recently punished by being suspended for four days and compelled to study a portion of "Marmion."

Mr. Grace, who for about 10 years, has been chairman of the Lindsay Board of Education, has been re-elected to the same position this year.

Under the able management of D. C. McHenry, M.A., and his assistants, the Cobourg collegiate institute reports a larger attened this year than it had ever before.

Trenton high school is progressing prosperously under the efficient head mastership of H. E. Kennedy, B.A. We predict a good record for it at the midsummer examinations.

Mr. Ross, a teacher in one of the Hamilton public schools, was recently fined $10 for severely punishing a pupil. The Board of Education has determined to appeal the case.

Inspector Knight, who is alive to the interests of elementary education, has done very much towards introducing the study of Phonography among the teachers in his inspectorate.

Mr. Craig, the energetic inspector of schools for South Wellington, has removed from Guelph to Fergus with the view of being more conveniently located in connection with the work of his inspectorate.

Our old friend Mr. J. Deacon, who has had a year's rest from teaching, by a sojourn in the Northwest, has again taken charge of Ingersoll model school. His re-engagement is an excellent compliment paid to his worth.

We learn with regret that John Dickson, M.A., principal, Peterboro' collegiate institute, is dangerously ill. He has asked for leave of absence, for three months, to regain his health. We hope to hear shortly of his convalescence.

We join the many friends of Mr. J. E. Bryant, head master of Galt collegiate institute, in congratulating him on his recent marriage. The happy event took place at Pickering, where Mr. B. spent several years in professional work.

Since the resignation of Mr. Jeffers, Mr. John Braden has had charge of the public schools in Peterboro'. For the past 15 or 16 years, Mr. Braden taught in or near Peterboro', and has invariably shown himself to be a skilful and faithful teacher.

Mr. J. Coyle Brown, the well-known inspector of schools in Peterboro' county, has removed to Norwood. Mr. Brown was recently appointed by the Education Department to take part in the examination of students in the Provinc al normal school.

In Whitby attention has recently been called to the fact of the frequent change of assistants in the collegiate institute. We learn that a committee has been appointed by the school board to investigate the cause. It will now be Mr. Robinson's turn to rise and explain.

Charges were brought against Mr. E. Scarlett, the old and experienced public school inspector of Northumberland county. When these were investigated by the county council, they were found to be groundless, and Mr. Scarlett was exonerated from all blame by a unanimous vote.

The public schools, Seaforth, under the head mastership of Mr. L. L. McFaul, are reported to be in a very satisfactory condition. This is only what we should expect from the management of such an experienced and capable teacher as Mr. McFaul.

Lindsay high school has an average attendance of 96. W. E. Tilley, M.A., principal, has shown in his work, since he came to Lindsay, that he is one of our most active and progressive teachers. He is assisted by Mr. Smith, B.A., gold medallist, and two other efficient teachers.

In the Whitby collegiate institute there has been some difficulty in connection with the staff of assistants. The Board of Trustees held an investigation to enquire why so many assistants leave the institute. It will come the turn of the principal, Mr. Robinson, to rise and explain.

We learn that Mr. J. H. Reid, head master of the Mount Forest high school, was a candidate for parliamentary honors. Both the late provincial parliament and its predecessor contained ex-teachers. We need only mention the names Trow, Ross, Deroche, to show that teachers make good legislators.

A new direction! Phonography is being taught in Pickering college; a type-writer has also been introduced for the instruction of the pupils. These are found to be useful and attractive features in modern education, and we hope to see the collegiate institutes and high schools follow such a good example.

During the past month, Inspector J. R. Miller, Goderich, has been visiting Toronto, and has passed his second intermediate examination in law, without oral. There are few in the province who have succeeded so admirably in the face of unusual difficulties. We predict for Mr. Miller still greater success.

The high school board, Seaforth, engaged Miss Hilton, of Yarmouth, Nova Scotia, to fill the place of H. J. Gosgrove, who left in October to complete his fourth year at Toronto University. We hear most excellent reports of Miss Hilton's success. Her teaching is described as something unusually impressive and attractive.

In Belleville all of the old staff of teachers have been retained in the public schools. One of them, Miss Sangster, has been recently appointed to Octave street, as first assistant. Miss Sangster is the daughter of Dr. Sangster, well-known to the teachers of Ontario as the late principal of the Toronto Normal school.

Industrial drawing has been introduced by Inspector J. H. McFaul into the schools of St. Catharines. At a recent examination, specimens of work done by pupils were exhibited, and all who saw them were surprised at the results accomplished in so short a time. Great credit is due to those who had the teaching of the subject in hand.

Fears were entertained that Pickering college would suffer by the death of the late estimable and talented principal, S. P. Davis, M. A., who was one of the most promising educators in the country. We are glad to learn that such fears are groundless, for the college is progressing most favorably and satisfactorily under the care of the new principal, J. Huston, M.A.

The Belleville high school is reported to be in a prosperous condition under Dr. Wright who has recently been appointed its principal, in place of Prof. Dawson. The average attendance is at present 125, with an intermediate class of 35. Miss Hunter, one of the most efficient assistants in high school work, has introduced Industrial Drawing, and now she has a class of over 100.

We are pleased to learn that Mr. A. M. Taylor, late head master of Ingersoll model school, has been appointed second master in the provincial model school, Ottawa, at a salary of $800 a year. Mr. Taylor has already shown promise of more than ordinary ability in the publication of a volume of poems, and his rapid advancement is indicative of a high position in the profession in the near future.

Belleville employs a writing master, Mr. Swayze who for the last four or five years has held his position, and has done much to improve the teaching of penmanship. There are 21 teachers employed in the public schools of Belleville, Mr. Johnston, the inspector, is to be congratulated on the efficiency of his staff; he has succeeded in securing some of the best lady teachers to be found anywhere in the province.

A very accurate Map of the Railways of Ontario, prepared by Mr. Knight, the able and popular inspector of schools of Lindsay and North Victoria, has recently been republished in Gage's Map Geography Primer. This map is accompanied by descriptive text, carefully compiled by the editors, Messrs. Hughes and Lewis, giving a full account of all the Railways in the Province.

Mr. G. H. Robinson, Whitby collegiate institute, has resigned his position as principal, to take effect 1st April.

Miss Keefer, Miss Watson, and Miss Palmer, have recently been appointed on the staff of teachers in Trenton.

Mr. Thomas T. Moore is doing good work in the public schools, Acton West, and enjoys the confidence of the trustees and the esteem of the inhabitants.

Good, steady work is being done at New Hamburg public schools, by the head master, Mr. Wm. Linton, and his assistants. Much satisfaction is expressed thereat in the locality.

Mr. Sellers, who is a very energetic teacher, is endeavoring to work up the schools at Brucefield, to which he has been lately appointed. We shall expect to hear of his success in due time.

Last year there were 50 pupils, children of non-resident parents, attending the high school, Port Hope. The total number of pupils on the roll was 146, with an average daily attendance of 98.

Mr, D. M. Malloch, head master, Clinton model school, has recently been laid up with an affection of the throat and chest, the result of a cold. We are glad to know he is again able to resume his onerous duties.

The Galt collegiate institute is making good progress under the able management of J. E. Bryant, M.A., principal, and the valuable assistance of Messrs. Brown and Carscadden. There are now over 90 pupils in attendance.

Mr. S. Nethercott, principal, Mitchell public schools, with the aid of his assistants, has organized a society among the pupils for the purpose of preventing improper language and discouraging the use of intoxicating drinks and tobacco. This is a step in the right direction.

In the Galt public schools, of which Mr. R. Alexander is principal, there is a want of more accommodation. The apartments in the central school are too small for the number of pupils in each class, and this contracted state of affairs is found to be extremely inconvenient.

The central school, Waterloo, is continuing to uphold its position in the county. A good record has been made by the principal, Mr. W. F. Chapman, in the work done in the school. Diligence and complete order are the characteristic features conspicuous to a visitor.

The appointment of W. Elliot, B.A., to the head mastership of Mitchell high school, last September, has given much satisfaction. Mr. Elliot is a graduate of Toronto university, and was assistant in Morrisburg high school. Mr. G. Malcolm, undergraduate of Edinburgh university, assists him. The average daily attendance is 60.

We understand that Mr. J. Groh is about to resign his position as assistant in Galt central school, through ill health. In this school the half-time system is adopted, and Mr. Groh has the management of the department in which amusement combined with instruction is carried on. The loss of a man so well adapted to this specialty will be greatly felt.

We regret to learn that Mr. A. Campbell, Kincardine, the efficient and courteous inspector of schools for West Bruce, has met with a painful accident. Falling off a ladder, while employed in some arrangements in connection with his removal to his new residence, he broke his left arm, quite close to the wrist. The limb is still almost useless, but is progressing favorably.

In Kincardine high school, which is under the head mastership of B. Freer, M.A., two pupils are being prepared for first class, nine for second, and thirty for third; one for senior and five for junior matriculation. The average daily attendance is about sixty. R. Moir, B.A. (Tor. Univ.), has lately been appointed as teacher of junior Latin and English.

The simplicity with which the motions of the earth can be illustrated, is well exemplified by Mr. Bowerman, of Napanee model school. A globe is suspended by a cord from the ceiling, which by the motions of a pulley can be lowered or raised according to pleasure; this can be made to show, not only the revolutions of the earth on its own axis, but also the motion of the earth around the sun.

Few villages have a better school than that at Blyth, which is under the head mastership of Mr. R. Henderson. This gentleman has won the thorough appreciation of the trustees by his faithful and diligent work. It is pleasant to note that the children under his care show evidence of careful tuition in polite and courteous behaviour—a branch of education which should not be neglected in any school.

The harmony of the Hamilton collegiate institute was broken last year by discord between Mr. Dixon and Mr. Vanslyke. The board saw fit to stand by the principal, Mr. Dixon. Mr. Vanslyke resigned in consequence and accepted a situation in London In the latest phase of the matter, Mr. Vanslyke prefers charges, and a Masonic odge censures Mr. Dixon.

The last session of the Kincardine model school, under the head mastership of Mr. T. C. Powell, was distinguished by the largest number of teachers in training that were ever present in it at one session. They numbered 37, of whom nearly all succeeded in passing.

Mr. James Brown, who was appointed head master of Whitby model school, in 1874, continues to give the very best satisfaction in his duties. The excellence of his work is indicated by the fact that Mr. J. McBrien, I. P. S., Ontario County, has spoken very highly of the efficiency of the teachers trained under Mr. Brown, who have taken schools in his inspectorate. It also is a point in favor of the model school system.

The duties of an inspector are often onerous and difficult, especially so in such counties as those of Lennox and Addington. A great deal of laborious work must be done both by travelling on roads which are almost impassable during a considerable portion of the year, and in office work necessary in the proper furnishing of reports, etc. We are sure that Mr. Burrows, and other inspectors similarly situated, have before them no easy task.

The report of Port Hope high school, given recently by Dr. J. A. McLellan, H. S. I., may be summarized as follows:—1. The school continues to do exeellent work; all the classes examined gave evidence of careful teaching. 2. Drawing has been begun, and good progress made. Dr. Purslow recognizes the value of the subject, and has made provision for carrying out the instructions of the department. 3. The tone of the school is excellent. I regard the school as amongst our very best institutions.

Mr. Johnston, inspector of schools for Belleville and South Hastings, has on his list of teachers over 100 in the county and 21 in the city. The recent vacancies have been filled by the Education Department granting certificates to applicants recommended by the inspector. Mr. Johnson has school matters well in hand, and is spoken of as one of the ablest and most popular inspectors in the Province.

The public school board in St. Marys recently established a fifth class. At a late meeting they appointed an additional assistant to aid in carrying out the work. The expense involved has produced a vigorous newspaper discussion between members of the institute board and those of the public school board, in which the two head masters have also participated. It seems that the school has ceased to send up its usual quota of thirty to fifty pupils annually to the institute.

Under the skilful management of Mr. D. J. Goggin, Port Hope public schools, have been brought to a remarkable state of efficiency. Few men in the Province have given so much attention as Mr. Goggin has to the study of methods of teaching. A visitor cannot help noticing the special attention that is given to literature and composition in the schools, and to the amount of interest manifested by the pupils in these subjects. Mr. Goggin is in the habit of selecting pictures—illustrations from the best magazines—and placing these before the class, requires a composition to be written descriptive of what appears to be conveyed by the designs. In each room a well-known author is selected, the children clubbing together to procure a handsome portrait of the same, such as Longfellow, Tennyson, Dickens, &c.; and the life and works of each author are so presented to the pupils that a lasting interest is at once excited, and the study is made pleasant and profitable.

High school matters are in good shape in Napanee. Mr. Fessenden, formerly head master of Brampton high school, has now charge; he is ably assisted by Mr. George Chase, M.A. and Mr. N. Wager, B.A. With such a staff the best results are insured. The average attendance at present is 90 with an intermediate class of 30. Mr. Fessenden, in being placed in charge of Napanee high school, has been fortunate in securing a most delightful home. The buildings now used for the high school were formerly a private mansion belonging to the Roblin estate—a magnificent structure with some six acres of grounds most tastefully laid out. The master's residence occupies a portion of the building. The estate, worth some thirty thousand dollars, was secured by the School Board for twenty-five hundred dollars. All the public school buildings in Napanee are of the very best character; fine large classrooms, well ventilated and furnished with all the modern improvements. Mr. Bowerman, an experienced and thoroughly efficient teacher, still continues to have charge of the model school, assisted by an able and efficient staff. The visitor is pleased to find the walls attractively decorated with colored crayon sketches, finely executed by Miss Ballantine; these of themselves are conducive to an art education.

A noticeable feature in the Ontario Business College, Belleville, which is under the management of Messrs. Robinson and Johnson, is the specimens of penmanship which hang on the walls. These are of such rare excellence that it is difficult to distinguish them from steel engravings, and to many of them are attached first prize cards, obtained in competition at Dominion and Provincial exhibitinns. In this establishment, banking and commercial transactions are carried on exactly as if occurring in ordinary business; wholesale trade is acted as if the institution depended on the profits of that branch; and telegraphy is performed with the alacrity and despatch characteristic of the best offices. The principals are ably assisted by Mr. McCormick, Mr. Timmins, and other highly qualified teachers.

Mr. Hughes, Inspector, Toronto, has recently been delivering lectures at some points on behalf of the Ryerson Memorial Fund. The following taken from the Uxbridge *Journal* speaks for itself: "On Friday night, according to announcement. J. L. Hughes, Esq., inspector of public schools for the city of Toronto, delivered his very interesting and profitable lecture, entitled "School-Room Humor," in Ontario Hall. He was greeted by an enthusiastic audience, which he held spell-bound for about an hour and a half, as he poured forth an incessent volley of wit, practical truth, and eloquent appeal, made irresistibly facinating by his inexhaustible store of comic and touching anecdotes. The peroration was singularly touching and beautiful as he portrayed the imperial power of simple goodness to command respect and reproduce itself. Should Mr. Hughes visit Uxbridge again we bespeak for him a full house."

MANITOBA.

THE CITY SCHOOLS.

The following is the report of the school management committee, adopted by the Protestant Board of School Trustees. The school management committee beg to report upon the work done during the year which closed 31st January, 1882, as follows:—Eighteen additional new school rooms have been provided, which for convenience of arrangement, ventilation, and lighting, are not surpassed in the Dominion. For the occupation of these rooms, fourteen additional teachers have been engaged, making a staff of thirty-six. The year upon which we have now entered finds the buildings as follows:—Old Central School—Normal Department, in charge of E. L. Byington, M.A.; Collegiate Department, in charge of John Fawcett, B.A.; Standard 9 and 10, W. A. McIntyre; Standard 8, E. A. Garrett; Standard 7, boys, E. A. Blakely; Standard 6, boys, J. T. Reid; Standard 5, boys, J. A. Greig; Standard 4, boys, Jno. Acheson; Standard 3, boys, Miss S. L. Harvey; Standard 2, boys, Miss L. Garwood; Standard 1, boys, Miss L McElroy. New Central School:—Standard 7, girls, John D. Hunt; Standard 6, girls, Miss S. A. Wright; Standard 5, girls, Miss J. McEwan; Standard 4, girls, Miss Agnes Eyres; Standards 2 and 3, girls, Miss Margaret Johnston; Standard 1, girls, Miss Kate Saunders. Carlton Street School:—Standard 5, Daniel McIntyre; Standard, 4, Miss Margaret Inglis; Standard 3, Miss A. A. Dickson; Standard, 2, Miss Margaret E. Paterson; Standard, 1, Miss I. Hargrave. Argyle Street School:—Standard 5, N. Hewett; Standards 3 and 4, Miss M. A. Maybee; Standard 2, Miss McKibben; Standard 1, Mrs. S. J. Tiplady. Dufferin School:—Standdard 4, F. F. Kerr; Standard 3, Miss J. H. Archibald; Standard 2, Miss S. E. Sharpe; Standard 1, Miss Janet D. Todd. Louise Street School:—Standards 3 and 4, J. F. Bamford; Standards 1 and 2, M. L. Barber. Euclid Street School:—Standards 3 adn 4, F. F. Shore; Standards 1 and 2, E. M. Attwood. The following is the Inspector's annual report:—The following brief review of the condition and progress of the schools during the year ending the 31st January, 1883, is respectfully submitted: Teachers.- The school year opened with a staff of twenty teachers, an increase of nine over the number at the commencement of the previous year. Additions, to the number of sixteen, have since been made to the staff, including those in charge of the normal and collegiate departments. These additions have enabled me to make a more effectual grading of the classes than was before possible. Every teacher is now in charge of a single grade, with the exception of those at Louise street and Euclid street schools, and one each at the Central and Argyle street schools. The professional standing of the teachers is as follows: Eight hold first-class and twenty-six hold second-class certificates, the remaining two being graduates. The rules of the board regarding appointment and promotion are calculated to secure the best talent obtainable, and to make it advantageous to them to retain their position. There are thirteen male teachers and twenty-three females, there being eight males at the Central school and one in charge of each of the five primaries. Pupils.—The number of pupils entered on the rolls for the last five months of the year was 1,836, and the largest number entered in any one month was 1,484, in November, the average for the same month being 1,030. The enrollment at the opening of the year was 926 and the average attendance 675.9. The percentage which the average has been of enrollment has varied from 65 to 85, not a satisfactorily regular attendance, unless the various causes militating against regularity incident to a new community like this be considered. Classification and Studies.—A programme of studies, issued by the Superintendent of Education, in February last, and adopted by the Board of Education in November, after full trial and approval by the teachers and others engaged in practical school work, is now in use in the schools, by which ten grades or standards are used in the classification of the pupils, from standard 1, the lowest, to standards 9 and 10, in which pupils are prepared for the counting-house or for second and third-class certificates. In addition to these, standards 11 and 12 represent the collegiate department, in which students are prepared for first-class certificates for the university, for the Law Society, and other examinations. This department was established on Sept. 1st, and has now 27 pupils in Latin, 10 in Greek, 19 in French, and 12 in the highest mathematical and English branches. By agreement with the Provincial Board of Education there was also established at the same time a normal department for the training of teachers. As the result of the first term's work five students have been awarded diplomas, one of whom is now employed on the city staff, and eight more have entered for the present term. In the course of studies and the method of teaching pursued, every effort is made toward the proper development of the pupils in correctness of language and of thought, and the avoidance of that mechanical preparation for examination called cramming. The frequent additions to the teaching staff, as well as to the classes, hitherto have rendered uniformity of system difficult, but as our permanent staff increases and gains experience in our methods, I am confident of the results exhibiting the soundness of the system of education in use in our rising city.

THE HIGH SCHOOL.

The collegiate department of the city schools was organized in September last, under Mr. Jno. Fawcett, B.A. The attendance, which was small at first, has gradually increased, so that Mr. Fawcett's work is now pressing heavily upon him, and provision has had to be made for some assistance. Mr. W. A. McIntyre, teacher of Standards 9 and 10, in the Central School, and Mr. E. L. Byington, M.A., Principal of the Normal School, are at present taking certain portions of the collegiate work, but it is felt that the appointment of a regular assistant teacher at an early date is urgently necessary. The first inspection and examination of the department was conducted by Ven. Archdeacon Pinkham, Superintendent of Education, Rev. Canon O'Meara, and Rev. Prof. Hart. Mr. J. H. Stewart, who was also one of the examiners, was absent through ill health. In view of the deep interest manifested by Mr. Stewart in the welfare of the department, the Principal greatly regretted his absence. The classical department of the school work was the only one which the examiners on this occasion found time to inspect. The classes in mathematics, science, and English, will be examined at a future time. It was stated by the Principal that the number of students of languages was as follows: Latin, 31; Greek, 14; French, 25. There are three Latin classes, of which one began in September and is now reading Cæsar and Ovid; another is reading Cæsar; and the third only commenced on the 1st of February. There are two classes studying Greek, of which the more advanced is reading Xenophon's Anabasis, while the junior is just beginning. Two classes are taking French, one of which is reading Telemaque, while the other has but recently commenced the grammar of the language. After the several classes in the languages mentioned had been successively called forward, and every pupil's knowledge tested by brief oral exercises in reading, translating, parsing, etc., the examiners expressed individually their satisfaction with what they had seen and heard. Rev. Canon O'Meara, being obliged to leave early, had not the opportunity of addressing the school, but he stated to the other examiners that he was well pleased with the progress which was being made, and said that he had nothing to suggest in the way of improvement. Ven. Archdeacon Pinkham being invited by the Principal, at the close of the examination, to address the school, said that it was a great satisfaction to him to have the collegiate department in its present condition. He had been very anxious indeed to have a thoroughly good public school system. For those who simply wanted an English education, it was the aim

to furnish one of a thoroughly practical nature, so that they would be able creditably to fill any position in business which they might be called upon to occupy. He gave an instance illustrating the disappointment sometimes felt by business men at the failure of pupils trained in public schools when required to turn their training to practical account. The members of the Board of Education were, he said, especially anxious that the education provided by the public school system of Manitoba of so practical a nature that pupils who were content with the simpler English branches would be fitted for the positions in life which they might take. At the same time, the Board was anxious that pupils who desired to go on and take higher work should be able to do so. This opportunity was now being afforded in a very excellent manner. He was satisfied from what he had seen that Mr. Fawcett was the right man in the right place. In a few years, a large number of students would be going up every year to present themselves for examination before the University of Manitoba. He was sure, from what he had seen of the work done here, that the department in charge of Mr. Fawcett would do its duty creditably. He could see that in a very short time it would be necessary for Mr. Fawcett to have help. Previously to the establishment of this department, Manitoba College, St. John's College, and St. Boniface College, had had all the higher educational work of the Province to do. The examiners who were present today were all connected with these colleges, and they were also members of the University of Manitoba. He was just as proud of this university as of the public school system. Those connected with the university would be glad to see the number of students presenting themselves for examination from year to year greatly increased, no matter from what institution they came. The Legislature had hitherto assisted the university with only a very small grant that was hardly worth speaking of; but he hoped that that body would soon take up the question of grants for higher education, and that the time would come when the colleges, which had been doing their higher educational work for years, would be recognized for the excellence of the work by the making of grants to them. He also hoped that a special grant would be made to the collegiate department here, and to the others that might be established. A collegiate department had been established at Portage la Prairie, at the commencement of the present school year; and no doubt one would be established at Brandon, also one, in a year or two, at Emerson, and others at Rapid City and one or two other places. The speaker went on to refer to the importance of the education which the pupils were receiving. He spoke in particular of the utility of a knowledge of the French language, and observed that the study of this language was made compulsory upon all candidates for degrees in the University of Manitoba. Rev. Prof. Hart indorsed the complimentary remarks of the Superintendent of Education. He was very much pleased, indeed, with the results of the examination, and thought that they were very fortunate in having secured the services of a teacher so painstaking and successful as Mr. Fawcett. It was surprising that in so short a time under his charge such results should have been brought about. He (Prof. Hart) had co-operated to the extent of his ability with the Superintendent in getting a collegiate department established in Winnipeg. He had long felt that high schools should be established in this country to do their share in the work of higher education, which had hitherto been entirely done by the colleges, and was still to a large extent. The colleges wanted to get rid of this work, so as to be able to devote themselves to the special work for which they had been established. He was glad to see this department established, because it encouraged the study of the higher branches of languages, mathematics, and English. In establishing the classical department, he would not interfere with the efficient teaching of the English branches. He was in favor of pupils learning thoroughly what they did learn, rather than learning a little about many things. He would not advise the studying of Latin and Greek by those who only intended to pursue them for a short time; but thought it better that such should spend their time in perfecting their knowledge of the English branches. He considered, however, that there was no better agent for the training of the mind than the study of languages along with other branches by those who could pursue the study to a sufficient extent. He gave some interesting illustrations of the benefits to be derived from the study of languages. In concluding, he referred to the tendency of the educational system in Ontario as being towards the study of too many things, thereby confounding the ideas of education and instruction. He was glad to see that the tendency of the teaching in this school was to thoroughness. Mr. Fawcett briefly expressed his pleasure in having the examiners present.

SCHOOL BUILDINGS.

The following is the annual report of the building committee, adopted by the Protestant School Board :—At the commencement of the year the following school buildings were in existence : Central school, Ellen street, 12 rooms ; Carlton street school, Graham and Hargrave streets, 2 rooms ; Argyle street school, Argyle and Common streets, 2 rooms ; Dufferin school, Common and Patrick streets, 2 rooms ; Louise street school, Market and Louise streets, 2 rooms. The rapid increase in the school population during the preceding year, from 900 to 1,610, showed the necessity of largely increased accommodation ; the overcrowded state of the various school rooms provided indicated the necessity of prompt action. The board, in view of the above, proceeded to arrange for the erection of new buildings, and of additions to those already erected as follows : A new building of 8 rooms on the Central school grounds; a new building of 2 rooms on the corner of Euclid and Lusted streets ; an addition to the Carlton street school of 4 rooms ; an addition to the Argyle street school of 2 rooms ; an addition to the Dufferin school of 2 rooms. These works have now been all completed, with the exception of such outside work as has to be deferred till warm weather. The cost of these buildings is as follows :

New Central School	$19,000
Euclid Street School Building	5,000
" " " Site	3,850
Addition to Carlton Street School	12,000
" Argyle " "	5,000
" Dufferin " "	5,000

All these additional school rooms have been furnished with the most improved seats and desks at a cost of $4,000. The total cost of the new buildings, with their furnishings, was $54,000.

WESTERN TEACHERS.

The Provincial Teachers' Association, at its last meeting, decided that it was advisable to hold its sessions annually, in the month of August, this being the time when the members could most conveniently attend. It was hoped by this arrangement to secure a larger attendance of the teachers of the province, and at the same time obtain assistance from eminent educationists who might be visiting the province at that time. It was also thought that the objects of the semi-annual meetings that have hitherto been held could be to a great extent accomplished by the formation of local associations throughout the province. The executive committee accordingly determined to make the change referred to in the time of holding the meetings of the provincial association. Opportunely at this juncture, a movement was entered into spontaneously on the part of the teachers of the western part of the province, for the establishment of an association for that district, and the Superintendent of education was invited to be present at the instituting of the organization. Ven. Archdeacon Pinkham, the superintendent, accordingly left for Brandon on Friday morning with this object in view, and was accompanied, at his request, by Mr. J. B. Somerset, inspector of the city schools. On arriving at Brandon the same day, they found nearly twenty teachers assembled, some of whom had traveled long distances to be present. One gentleman in particular had walked 25 miles, in the latter 15 of which he had been accompanied by another teacher. The association was duly organized, the following officers and an Executive Committee being appointed : President, Rev. Mr. Boydell, Brandon ; Inspector, of Schools ; Vice-President, Mr. Lamont, teacher, of Brandon ; Secretary-Treasurer, Mr. Jeffry. The Association is to be known as the "Teachers' Association of Western Manitoba." It is purposed that the meetings shall be held alternately in Brandon, Rapid City and Minnedosa. On Friday evening Ven. Archdeacon Pinkham, delivered an address to the teachers and to a number of citizens, including the Mayor and several of the Board of Trustees, in the new school house, which is just approaching completion, and which is a credit to the young and ambitious city. The speaker made reference to the wonderful growth of the city of Brandon, instancing the fact that thirteen months ago he had been present on the occasion of the establishment of the school, when the attendance of pupils numbered about thirty. He contrasted with this the present large building of six rooms and the attendance of about 250 pupils. He further spoke of the resources which should be at the disposal of the board of education from the school lands of the province, and expressed the hope that the time would soon come when the funds from this source would be available for the support of education. Mr. Somerset followed with an effective address, which was very well received. On Saturday the newly formed association took up the subject of the teacher's practical work in the school-room. Mr.

Somerset made observations on the teaching of reading and spelling. Mr. Lent and Mr. Shaffner, of Rapid City, read excellent papers on other subjects. It is expected that the example thus set at Brandon in the western district will be imitated elsewhere, and that similar associations will be established at Portage la Prairie, Emerson, Nelson and other centers.

Readings and Recitations.

THE MODERN SCHOOL TEACHER.

'Twas Saturday night, and a teacher sat
Alone her task pursuing;
She averaged this, and she averaged that
Of all that her class was doing,
She reckoned percentage so many boys,
And so many girls all counted,
And marked all the tardy absentees,
And to what all the absence amounted.

Names and residences wrote in full,
Over many columns and pages;
Canadian, Teutonic, African, Celt,
And averaged all their ages;
The date of admission of every one,
And cases of flagellation;
And prepared a list of graduates
For the county examination.

Her weary head sank low on her book,
And her weary heart still lower;
For some of her pupils had little brains,
And she could not furnish more
She slept, she dreamed; it seemed she died,
And her spirit went to Hades,
And they met her there with a question fair,
"State what the per cent of your grade is!"

Ages on ages had rolled away,
Leaving but partial traces;
And the teacher's spirit walked one day
In the old familar places.
A mound of fossilized school reports
Attracted her observation,
As high as the state-house dome, and as wide
As Boston since annexation.

She came to the spot where they buried her bones,
And the ground was well built over;
But laborers digging threw out a skull,
Once planted beneath the clover.
A disciple of Galen, wandering by,
Paused to look at the diggers;
And picking the skull up, look'd through the eye,
And saw it was lined with figures.

"Just as I thought," said the young M. D.—
"How easy it is to kill 'em!
Statistics ossified every fold
Of cerebrum and cerebellum."
"It's a great curiosity, sure," said Pat,
"By the bones you can tell the creature!"
"Oh, nothing strange," said the doctor; "that
Was a nineteenth century teacher."

—*Chicago Tribune.*

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

GLENGARRY.—The half-yearly meeting of this association was held in the brick school house, Alexandria, on Thursday and Friday, the 1st and 2nd February. From the lively interest manifested in the proceedings, and the remarks of many of those who were present, we think we may venture to state that no more successful meeting has hitherto taken place in this county. The theory of "Teaching" took up the greatest part of the time of the session, and no one who followed the remarks made on this occasion could fail to be benefited by the same. Nearly sixty teachers gave close attention to the many valuable hints that were thrown out by the more experienced members of the association, and the lively discussions that took place from time to time, as well as the asking and answering of questions connected with school-work gave an unusually interesting turn to the meeting. The secretary read communciations from J. A. McCabe, Esq., principal of the Normal School, Ottawa, and Dr. McLellan, H.S. Inspector, regretting their inability to be present. Dr. McDiarmid, I.P.S., gave a very practical lecture upon "Deficiencies of Teachers," in the course of which he touched upon attention, method, clearness, preparation, grammatical errors, mental culture, best means of securing order, discipline, etc. A number of excellent papers and addresses were given, among which we might mention the following:—J. D. Houston, Lancaster, "Drawing for Beginners," and "Philosophy of Questioning;" Miss McDonald, Lancaster, "Letter-writing;" C. A. McLaurin, "Object Lessons;" Alex. Kennedy, Martintown, "English Grammar;" Miss McCrimmon, "Discipline." W. D. Johnston, H.M. M.S., enlivened the proceedings with a couple of readings. The election of officers for the present year resulted as follows:—President and Treasurer (I.P.S.) Dr. McDiarmid; Vice President, Alex. Kennedy, Principal of Model School, Martintown; Secretary, W. D. Johnston, H.M. M.S., Alexandria; Librarian, F. McCabe; Management Committee, C. A. McLaurin, H. D. McDonald, J. H. McCormick, D. J. Hunter, F. McCabe; Auditors, W. D. Johnston, Dr. J. Hunter. A resolution was passed to the effect that in the opinion of this association the franchise should be extended to teachers actually engaged in teaching, and the secretary was instructed to forward a copy of this resolution to the member for the county in the Local Legislature. The association then adjourned until the first Thursday and Friday in September.—W. D. JOHNSTON, Secretary.

REVIEWS.

A new candidate for the favor of accountants, teachers, students, and all who have occasion to use the art of book-keeping, has just issued from the press, under the authorship of Mr. Connor O'Dea, secretary of the British American Business College, Toronto. The author we believe, is an experienced and accredited professional teacher, and from a careful and thorough examination of the work, we have no hesitation in pronouncing Mr. O'Dea's treatise a very valuable contribution to the science which it is designed to elucidate. In matter, it is full and exhaustive; in arrangement, clear and simple beyond the generality of similar productions. Both single and double entry systems are amply illustrated and adapted to every description of business; and the whole is so lucid in detail, definition, and explanation as to leave absolutely nothing to be desired. An instructive portion of the work is that upon banking business, discounting, and renewal of notes, &c. Then the examination questions for students ("Questions for Review form a most useful and excellent feature. In short, the author has produced an admirable manual of book-keeping, a *multum in parvo* that ought to be in the hands of all who have occasion either to keep accounts or to give instruction in that important, not to say indispensable, branch of knowledge. A word on the mechanical execution of the work, which in not less entitled to commendation than the intellectual portion of it. The form is royal octavo, and makes a handsome volume of 175 pages, the whole beautifully printed on fine, tinted paper. And "last but not least" is the fact that, in order to ensure a large circulation, the price has been placed at the low figure of one dollar.

MAGAZINES.

The North American Review, March, 1883.—This number of this popular and valuable review contains eight articles upon different subjects, each of which is treated in an able manner by its writer, and all of them important at the present time. "Money in Elections," by Henry George, shows to what a deplorable extent bribery and corruption prevail among our cousins south of the lines, and the necessity there is for educating public sentiment in the matter, and raising it to a much more healthy condition. "The Subjugation of the Mississippi," by Robert S. Taylor, must command general attention just now, when that mighty river has been causing such great and wide-spread devastation. No one can read it without being interested and instructed. "Gladstone," by Moncure D. Conway, will scarcely satisfy either the admirers or opponents of the statesman who has now, for more than half a century, been connected with the parliamentary history of Britain, and has attained such an eminent position both as an author and a statesman. "The Pyramid of Cheops," by Richard A. Proctor, conveys some fresh information regarding that mighty structure, showing that it and other buildings of the same kind, whose erection must have cost treasures of money and human toil, were for at least a threefold purpose—religious worship, astronomy, and burial; in other words, they were temples, observatories, and tombs. "Some Aspects of Life Insurance," by Elizur Wright, bristles with figures, and closes with a suggestion well worthy of consideration. Four writers treat of "Educational Needs," a subject which will never be exhausted, and on which difference of opinion must ever prevail. The other articles are:—"Railway Influence in the Land Office," by George W. Julian, which will be the first to be read by those in Canada who have been watching the construction of the Canada Pacific; and "Protective Wages and Taxes," by Prof. W. G. Sumner. We cordially commend the number.

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CANADA SCHOOL JOURNAL

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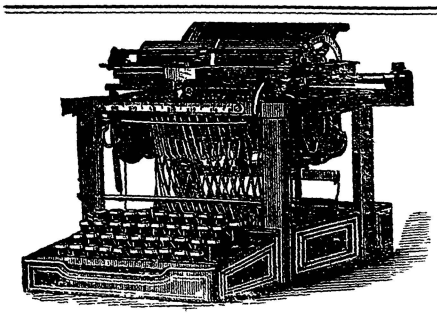

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CANADA SCHOOL JOURNAL HAS RECEIVED

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Recommended by the Council of Public Instruction, Quebec.
Recommended by Chief Superintendent of Education, New Brunswick.
Recommended by Chief Superintendent of Education, Nova Scotia.
Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

CONDUCTORS OF INSTITUTES.

The county model school and the county convention, the two most recent additions to our educational machinery, may fairly be pronounced successful. They are each performing a work which could scarcely be accomplished in any other way, and they seem destined to produce great and lasting results. No one imagines, however, that they have sprung forth, complete and perfect, like the goddess of classical myth. The convention, especially, seems capable of much improvement, and this is a suitable moment for a few timely suggestions when the majority of our associations are just making arrangements for their next meeting.

First of all, a successful, live, profitable, convention will not be produced by "the fortuitous concourse" of a miscellaneous collection of items on the programme. Some great purpose, some commanding thought, must weld the items into a distinct whole, and combine variety into unity. The experience of the last decade has plainly shown that a programme without a leading idea cannot attract members from a distance, nor fire them with enthusiasm in their profession. We need not tell those who have labored to make our conventions successful, that it requires almost as much generalship as would suffice to win a battle. What troops to order to the front, what reserve forces to hold in readiness for emergencies, what cavalry, what infantry, what light skirmishers, what cannon to employ, what general plan of action to adopt—these are some of the difficult questions to be settled in the council of war, the decisions of which demand first-rate executive ability to carry them out to successful issue. Self-sacrifice, for the general good, and much labor, without the least hope of personal reward, have always distinguished our conventions. But we have lacked somewhat in the incisiveness, the attack, the unity of purpose, that naturally spring from the individuality of dictatorship.

In many of the United States the problem has been solved by appointing conductors of institutes from the ranks of leading educationists. A specialist, even if he be an extreme hobbyist, will be likely to excite interest and to precipitate that conflict of thought wherein lies the power of the convention. And he can scarcely fail to advance something new and stimulating to those who are by the nature of their work very liable to fall into the ruts of orthodox routine. His peculiar views and his special standpoint will tend to wake up thought and suggest new ideas pregnant with the germs of future progress, while his individuality will save the convention from aimlessness, and give it a pleasing spice of novelty. The experiment is by no means new in our own country, and the uniform success that has attended it warrants us in urging its general adoption. The funds of the association have never been more satisfactorily expended than in procuring the services of qualified conductors. But instead of arranging for single lectures, we should advance a step farther, and put the main action of the convention under the control of a single mind. The natural supplement to this would be local town and township institutes, held quarterly, in which all members would find ample scope for their energies, and help materially to forward the Canadian illumination.

MACHINE EDUCATION.

In the *Popular Science Monthly* for February, there appeared an editorial article entitled "Machine Education." The writer favors his readers with the following definition: "By machine education, we mean the rigid mechanical, law-established routine applied to great multitudes of children of all conceivable sorts who are got together in large establishments and submitted to operations that go under the name of mental cultivation." The definition is emphasized by the remark that "machine education is of the very lowest sort, and the best that can be said of it is, that it is barely better than nothing at all." To make matters still worse, we are informed that "it is not capable of improvement. The method itself is radically false, so that the improvements of it but make it worse." We wish to enter a respectful, but firm, protest against the general drift and necessary implications of the articles in question. We will take the writer on his own ground. He draws a striking distinction between true and false theories of education, between education as a development of mental activity and power and as a mere storing of the brain, between the genuine office of the teacher in encouraging, inciting, and arousing the pupil to put forth his own efforts, and the mechanical work of stuffing him with barren acquisitions. These distinctions are true and solid. Wherever they are disregarded in practical educational work, in public schools just as elsewhere, energy is misdirected and serious loss must ensue. If, however, the grave arraignment be made that "the whole mechanism of the public

school system is now impelled by law" in favor of "external appliances and mechanical arrangements," it is somewhat anomalous that modern society should be indebted for the distinctions which the writer so eloquently and truly describes to the very men who have founded, developed, and established beyond all possibility of overthrow the system of popular education which he condemns. We have no quarrel with the writer when he calls attention to inconsistencies between the theory and practice of public school officials, and we are not set to defend the particular methods of grading and marking adopted in the schools of New York city. *Red-tapism, ultra-officialism,* can exert their stifling influence in educational as well as in other matters. But our contention is that the implication that our modern public school systems unfavorably compare with the state of things which preceded them in respect to vicious and irrational methods of education is misleading and essentially false. Those systems, as a rule, are worked according to the precise theory which is laid down in the article under consideration. The very studies which the *Monthly* regards as of prime importance had no place in the school curriculum of thirty years ago, any more than had the theory that in schools pupils shall be taught to *think* rather than *learn* proper recognition in the educational methods of that period. While thus protesting against what we conceive to be the unfair logic of the article in its general bearing, we are glad to endorse some of its incidental positions, as for instance that "teachers should have some liberty to adapt themselves to the fundamental, though ever-varying, requirements of individual pupils."

ENGLISH LITERATURE AND GRAMMAR IN ELEMENTARY SCHOOLS.

Last month, we presented some thoughts on "Grammar and Composition in Elementary Schools," and insisted on increased attention being given to the *making* of sentences as distinguished from the dissection of sentences. Our columns contained numerous selections supporting our position, and indicating very clearly the method of accomplishing the desired end. Technical grammar cannot be profitably introduced in the earlier stages of a public school course. We must rely on imitation of good models and the force of habit much more than upon the power of logical analysis, which presupposes a grasp of thought that only one child in a thousand possesses. Even when a text-book on grammar is put into the pupils' hands it should be merely a ground-plan of the subject, "exact to perfection, short to the shortest, and clear to the clearest." It requires a combination of talents to write such a book as shall everywhere leave out everything that can be left out, and still furnish at every point articulations into which the whole of the suppressed matter will exactly fit as the student proceeds further and further with his studies. Dr. Morris and Prof. Whitney have each done this with surprising success. The latter, especially, has a happy clearness and simplicity of statement combined with the rare faculty of knowing how much to leave out. There is no doubt that his "Essentials of English Grammar" is directly in the line of progress, and a distinct advance on all predecessors, particularly in the facts that it is a grammar of English as spoken in the present century, and is untrammelled by foreign models, and stripped of the formidable free-masonry of technical terms which make the subject so dry and wearisome to boys and girls.

We pass on in the present number to observe that grammar is the *means*, not the *end*. It is to be kept strictly in the subordinate position of key to the palace of literature. We fear that a vast amount of so-called teaching of English literature in our public and high schools is, after all, very little more than a useless jingling of bunches of grammatical keys. Thought, meaning, sense, feeling, beauty, imagination, creative power—these are all within, while we are wasting our precious time on the threshold toying with the intricate wards of the keys, but using none of them to unlock the treasures which might be ours.

Instead of proffering further remarks of our own on the RELATION OF GRAMMAR AND LITERATURE, we present, by permission of the publishers, a short extract from the preface to *Hamlet* in "*The School Shakespeare*," by Dr. Henry Hudson, one of the most distinguished scholars on this side of the Atlantic. It will be found among the Special Articles.

PSYCHOLOGY IN NORMAL SCHOOLS.

An ignorant man is one who does not know the principles underlying his daily work, and does not understand the nature of the material on which he operates. An ignorant politician does not understand jurisprudence and political economy. A shoemaker may be a very good linguist, but he is an ignorant shoemaker if he does not know all about leather. A druggist may be an excellent astronomer, but he is not fit to dispense drugs unless he knows far more about their formation and properties than he can learn in a drug store alone. An ignorant teacher is one who, though perhaps a good general scholar, knows very little of the mind on which he operates, who has not carefully examined into the process of knowing. A physician is expected to qualify himself for dealing with the body by a thorough study of physiology, and he is considered a charlatan unless he knows the function of every organ and tissue. The teacher is daily occupied in developing mind. Shall he proceed by guess, ignorant of the laws of mind, and escape the charge of quackery?

Psychology is as purely an experimental science as chemistry, its deductions follow as clearly as those of mathematics, and if education is ever to rise above mere empiricism and become a true science it must be by laying the foundation securely in a sound psychology. If the profession of teaching is to reach the commanding position it deserves, our training schools must place their students above the authority of mere authority by founding their methods upon the nature of the mind itself. A step in this direction has already been taken by the provision that first-class teachers shall hereafter attend a course of lectures on psychology, to be given each year at the Education Department. But of all teachers, those who have charge of the

youngest classes require the aid of mental science to guide them. It is in the very first stages of learning that the science of knowing can render the most efficient help by determining their order and limits. Our normal schools must give to second-class teachers an outline of the science and enable them to make a good beginning in this *scientia scientiarum.*

It has been found by experiment in other countries that a very elementary course of instruction in psychology produces marked effects on the intelligence and power of the teaching in public schools. This way lies progress; let us fearlessly take another step, and at the very outset put every young teacher in possession of the laws of mind. "The realm of thought cannot be explored without thought," and incidentally we shall be giving them a piece of mental training, far superior to that produced by the mixture which is now by courtesy called the science of education.

INSPECTION OF SEPARATE SCHOOLS.

As the Legislature has adopted the plan of appointing an inspector of separate schools, it is not necessary now to discuss the principle. But having accepted the doctrine that thorough inspection of schools is essential, the government cannot leave the separate schools in their present condition. There are in these schools over 450 teachers and about 30,000 pupils, involving a yearly expenditure of about $130,000. The maximum number of schools allowed to an inspector in a county is 120. But the separate schools are scattered over the whole province, so that it must be nearly impossible for the present efficient inspector, Mr. White, to visit them all even once a year. If the province were divided into two districts it might be possible to overtake the work, and the statistics plainly show that the step must be taken. We cannot go back on the record of half a century and practise parsimony at the dictation of those weight-and-measure educationists whose ideal of education would carry us back to the midnight of the dark ages.

The *Educational Monthly* for February comes sadly to hand towards the First of April with a notice of one of its sub-editors, Mr. Robinson, in which it asks with tearful indignation "When will school trustees and the people generally see that right and justice demand that the profession shall receive honorable and generous treatment—the encouragement and sympathy, rather than the indifference and contumely, of their fellow-men?" This lachrymose interrogation demands a short commentary, so that our readers may fully sympathise with the *Monthly's* deep affliction, and understand what it is to receive "the indifference and contumely of fellow-men." At a meeting of the Whitby Board of Education, assembled to appoint a principal for the Collegiate Institute, Mr. L. E. Embree, B.A., was selected out of a large number of applicants. Among the testimonials submitted by him were some from certain individuals whom the Board thought were connected with a party they called the "Adam clique," and it is rumored so averse were they to any one, or anything, savoring of that party, they adjourned to institute further enquiry. At the adjourned meeting the Board were fully convinced that Mr. Embree had no connection whatever with the party, and obtained these testimonials only in the course of professional acquaintance. Hence the *Monthly* sobs out its vexation, appeals to "right and justice," bewails the "indifference and contumely of fellow-men," and solemnly announces that Mr. R. has been led to "renounce the profession." We feel for the orphaned profession; but good may come out of apparent evil if the gentleman, in "renouncing his profession," will also take the important step of renouncing the items set down in the catechism for the admonition of all good men.

MR. L. E. EMBREE'S APPOINTMENT.

The Board of Education, Whitby, has appointed Luther E. Embree, B.A., late head master of Strathroy High School, to the principalship of the Whitby Collegiate Institute, vacated by the resignation of G. H. Robinson, B.A.

Mr. Embree entered Toronto University in 1871, after a successful course of public school teaching in St. Thomas. At matriculation he obtained a double scholarship, and graduated, with a silver medal in moderns, in 1875. For some years he was assistant master in Toronto Collegiate Institute, and subsequently principal of Yarmouth Seminary, Nova Scotia, where Dr. J. A. McLellan had previously presided. His career as principal of Strathroy High School is one of distinguished success, as the school records abundantly testify.

In his new position he will, we are sure, bring all his well-known energy to bear in endeavoring to maintain the establishment in Whitby up to the standard of a collegiate institute, a standard which from some cause or other has been jeopardized. We have every confidence in the efforts he is capable of exerting, and will exert, for the welfare and benefit of the collegiate institute. We congratulate the Board of Education on their wise selection, and we wish the new principal success and prosperity in his new and important sphere.

PANICS IN SCHOOLS.

The recent fatal accident in one of the Roman Catholic schools of Brooklyn, by which fifteen or twenty pupils lost their lives, and many more were seriously injured by falling over a staircase upon one another while rushing out at a sudden alarm of fire, has induced the school authorities in Kingston and Toronto to take precautions for the prevention of such a disaster on this side of the lines. In small schools the danger is not great, but where the attendance exceeds one hundred occasional fire drills would be highly commendable. In most of the city schools of the United States such drills are frequent. The alarm is given, and the whole school quickly and quietly turns out in perfect marching order. When a real alarm occurs there is no confusion and very little danger of a panic. Such drills also serve an excellent purpose for ordinary discipline. All doors of exit are required by statute to open outward, and the penalty for neglect is a fine of about fifty dollars. We earnestly recommend all teachers to see that no death-traps are left about their schools. Trustees should be notified and fully warned of the danger and of their responsibility. Narrow or crooked stairways should be changed immediately.

MORAL TRAINING IN SCHOOLS.

There is a great lack of moral training of young people, not only in the homes but in our public schools. The reading of the Bible in the public schools has always been met with vigorous protests, and the ordinary text-books are usually innocent of any moral instruction, except what is taught by inference, and that fails to meet the demand. What is imperatively demanded in our public schools is a regular course of moral teaching, which shall be adapted to the comprehension of all classes of pupils. Because our common school-teaching does not provide for this kind of moral instruction the Catholic denomination seizes upon it as an excuse for opposing it, and for establishing parochial schools of their own, in which they see to it that the special tenets of their church are also inculcated. All the statistics of all the penal institutions and alms-houses in this country, and in all civilized countries, go to prove that the most prolific cause of crime is connected with the sale of alcoholic liquors; and in looking about for ways and means to prevent crime, we stumble upon the demoralizing traffic. And so it may be laid down as a general proposition that to prohibit the manufacture and sale of intoxicating drinks in any community, or to reduce the use to the minimum, would be to dry up at its fountain-head one of the chief sources of crime, pauperism, and wickedness. No intelligent person will deny this broad but truthful assertion, and, with all the astonishing facts before us in this respect to the criminality springing from strong drink, the Christian and the philanthropist feel justified in adopting the most heroic treatment in dealing with this giant evil.—*Chicago Journal.*

The *Chicago Journal* strenuously insisted, we are told, on the exclusion of the Bible from public schools, and now, finding, like the French statesmen who abolished the Sabbath, that some substitute is needed, it comes out as strenuously in favor of teaching morality. But where is morality to be found apart from the Bible? The Ten Commandments and the teaching of Christ and His inspired Apostles contain an authoritative and reliable code of morals, before which the morality of the Grecians, Romans, Hindoos, Mohammedans, Chinese, Voltaire, Paine, and Ingersoll are mere dross as compared with fine gold. The best book next to the New Testament was one prepared by Protestant and Roman Catholic bishops, consisting of selections from the Scripture, for the Irish national schools; and it would be well, if we cannot get the whole Bible into schools, at least to get that volume of extracts from it, specially suitable for the young.—*N. Y. Witness.*

SPELLERS IN SCHOOLS.

We have much pleasure in announcing that the Education Department some time since determined to discontinue authorizing spelling-books, copy-books, and such like material. These books may be selected by the Teacher with the approval of the Inspector and Trustees. Gage's Practical Speller is now being used extensively and successfully in the Provincial Model School, Toronto, and in many of the leading schools in Ontario, Quebec, Nova Scotia, and Manitoba.

The continuous benefactions of Mr. Munro are rapidly making Dalhousie one of the most liberally endowed colleges of the Dominion. Following close upon the announcement of Mr. McLeod's generous bequest of funds, sufficient to endow three professorships, came the proposal of the large-minded New Yorker to establish a second chair in classics, with two adjunct tutorships. Our Nova Scotia Notes for this month convey intelligence of a "new departure" in the liberality of a gentleman whose gifts to learning are fast making his name famous. The aim of establishing an efficient Law School in Halifax seems, under the indicated plan, entirely feasible. The new movement has indeed a guarantee of success in the character and ability of Dr. Weldon, and the legal gentlemen who are to be associated with him as the Law Faculty of Dalhousie.

J. A. Clarke, B.A., B.Sc., has been appointed to the head-mastership of the Strathroy high school to fill the vacancy caused by Mr. Embree's removal to Whitby. Mr. Clarke is a gold medallist of Victoria University, and has since graduation taken special courses in science and modern languages. He has been very successful in his mastership of Smith Falls high school and goes to his new field with the highest recommendations from inspectors and others, who describe Mr. Clarke as one of the most successful teachers in Ontario.

Mr. C. A. Barnes, B.A., Inspector of Schools, East Lambton, was the recipient of a handsome gold watch, chain, and charm, the gift of the teachers of his inspectorate. The presentation was made at the late meeting of the County Teachers' Association, of which Mr. Barnes is president, and an address was read expressive of the high regard in which he is held by his teachers, and their appreciation of his friendship during the past six years. Mr. Thomas White read the address and Miss Davidson made the presentation. Mr. Barnes thanked the teachers in eloquent terms. We regret that we cannot spare space to print the address and reply in full.

Mathematical Department.

DALHOUSIE COLLEGE EXAMINATIONS.

MUNRO JUNIOR EXHIBITIONS AND BURSARIES. MATRICULATION

ARITHMETIC AND ALGEBRA.

Examiner—C. McDONALD, A.M. *Time*—THREE HOURS.

1. Express in words the value of each of the figures in the number, ·00706005.

2. Reduce to its simplest equivalent—

$$\{(a-b)x-(b-c)y\}-\{(a+b)x+(b+c-d)y\}+ax-bx-cy.$$

3. For what values of n is x^n+y^n divisible by $x+y$? Illustrate by an example when n is not less than 4.

4. Find the value of $(x+y-z)(z+x-y)(y+z-x)(x+y+z)$, when $z^2=x^2+y^2$.

5. Express in simplest form $\sqrt[5]{-\frac{32}{243}p^5q^{20}n^{10m}s^nt^{-a(b-c)}}$,

and $(2a-x)x^{\frac{1}{2}}+\sqrt{a^2x+2ax^2+x^3}$

6. $x^3+max+a^2$ is a factor of $x^4+ax^3+a^2x^2+a^3x+a^4$: Prove $m^2=m+1$.

7. Solve the equations $(x-\frac{5}{2})(x+\frac{3}{2})-(x-5)(x+3)=9\frac{3}{4}$,

and $$\sqrt{\frac{a^2}{x}+b}-\sqrt{a^2x^{-1}-b}=c^{\frac{1}{2}}.$$

8. If $ay+bx=bh$, $ky+hx=b^2$, and $x^2+y^2=b^2$, prove $a^2+b^2=h^2+k^2$.

9. Show generally, and not by working a particular example, that if the last figure of a whole number is 5, the last two figures of its square are 2, 5. Show also that the sum of the cubes of two consecutive odd numbers is divisible by twice the intermediate whole number.

SOLUTIONS.

1. Book work.
2. *Ans.* $ax-3bx-2by-cy+dy$.
3. *Ans.* 1, 3, 5, 7, &c—any odd number. x^3+y^3.
4. Exprs $=\{(x+y)^2-z^2\}\{z^2-(x-y)^2\}$.
$=(x^2+y^2-z^2+2xy)(z^2-x^2-y^2+2xy)=2xy\times 2xy=4x^2y^2$.
5. $-\dfrac{2pq^4m^{2m}s^{\overset{n}{5}}t^{\overset{a}{5}}}{7t^{b-c}}\{(2a-x)\pm(a+x)\}x^{\frac{1}{2}}=3ax^{\frac{1}{2}}$ or $(a-2x)x^{\frac{1}{2}}$
6. On division the remainder must $=0$,

$$\begin{array}{r|l|l} 1 & 1 \quad + a \quad + a^2 & + a^3 \quad + a^4 \\ -ma & \quad - ma \quad -a^2(1-m)m & +a^3(1-m)m^2 \\ -a^2 & \qquad\qquad -a^2 & -a^3(1-m)+a^4(1-m)m \end{array}$$

$|1 \quad +a(1-m)-a^2(1-m)m|$

Hence the last two columns must separately $=0$,
From last column $m^2=m+1$, from last but one m^2 also $=m+1$.
7. (1) $(x^2-x-\frac{15}{4})-(x^2-2x-15)=\frac{39}{4}$ $\therefore x=-\frac{3}{2}$.
(2) $(a^2x^{-1}+b)^{\frac{1}{2}}-(a^2x^{-1}-b)^{\frac{1}{2}}=c^{\frac{1}{2}}$.
Square, divide through by 2, and transpose—
$(a^4x^{-2}-b^2)^{\frac{1}{2}}=a^2x^{-1}-\frac{1}{2}c$.
Square, cancel, transpose, and divide through by a^2c
and $x=4a^2c\div(4b^2+c^2)$.
N.B.—We can only tell by trial whether this root will satisfy the given equation, because when we square we introduce a quantity which might have come from another equation with opposite signs.
8. We have to eliminate x and y. From 1 and 2
$$x=\frac{b(kh-ab)}{bk-ah};\quad y=\frac{b(b^2-h^2)}{bk-ah}$$
$\therefore$ 3, $x^2+y^2=\dfrac{b^2}{(bk-ah)^2}\{(kh-ab)^2+(b^2-h^2)^2\}=b^2$
whence $(kh-ab)^2+(b^2-h^2)^2-(bk-ah)^2=0$,
or $(k^2h^2+a^2b^2)+(b^2-h^2)^2-(b^2k^2+a^2h^2)=0$;
i.e. $(b^2-h^2)^2+a^2(b^2-h^2)-k^2(b^2-h^2)=0$;
$\therefore$ $(b^2-h^2)+a^2-k^2=0$, or $a^2+b^2=h^2+k^2$.
9. Let x be the tens, then No. $=x+5$; hence its square is $x^2+10x+25$, and x^2 can give only hundreds, $10x$ will also give hundreds. $\therefore$ 25 are the only figures of the tens and units. Every odd number is of the form $2n+1$. Let $2x+1$, $2x+2$, and $2x+3$ be the three consecutive numbers. Then $(2x+1)^3+(2x+3)^3$ is divisible by $2(2x+2)$.

GEOMETRY.

1. If two triangles have two sides of the one equal to two sides of the other, but the base of the one greater than the base of the other, then the triangle having the greater base shall have also the greater vertical angle.
2. In any obtuse-angled triangle, the square of the side opposite the obtuse angle exceeds the sum of the squares of the sides, &c. Give the full enunciation, and prove the proposition.
3. The opposite angles of a quadrilateral inscribed in a circle are together equal to two right angles.
4. Divide a line into two parts so that the square of the one may be double the square of the other.
5. CD and FG are two diameters of a circle, and from P in the circumference perpendiculars are drawn to them, meeting the circle again in Q and L. Prove arc QL double of arc DG.
6. Construct a right-angled triangle equal in area to a given triangle and having its altitude, *i.e.*, one of the sides containing the right angle, equal to a given line.

NOTES.

1. I. 25.
2. II. 12.
3. III. 22.
4. Construct an isosceles right-angled triangle Then the onsq. the hyp. is double the sq. on the base. Produce the base and cu off a part = hyp. Divide the given strt. line similarly to the line thus produced. (VI. 10.)
5. $CP=\frac{1}{2}$ arc PCQ (III. 3, &c.), $PQ=\frac{1}{2}$ arc PGL, and arc $DG=$ arc $CF=$diff. between the $\frac{1}{2}$ arcs $=\frac{1}{2}$ diff. between whole arcs $=\frac{1}{2}$ arc QL, *i.e.*, arc $DG=\frac{1}{2}$ QL, $\therefore$ (VI. 33) strt. line DG is double of strt. line QL.
6. Let ABC be the given triangle, P the given line. Complete the parallelogram of which ABC is half. To P apply a parallelogram =twice ABC, having one of its angles a rt. angle. Draw the diagonal of this parallelogram so applied and we have the req. trian.

GILCHRIST SCHOLARSHIP—LONDON UNIV.

MATRICULATION—JUNE, 1882.

ARITHMETIC AND ALGEBRA.

Examiners—DR. JOHN HOPKINSON, M.A., F.R.S., AND BENJAMIN WILLIAMSON, ESQ., M.A, F.R.S. *Time*—THREE HOURS.

1. Add together and simplify $\frac{5}{11}\{\frac{3}{20}+\frac{3}{4}(\frac{4}{9}-\frac{2}{5})\}$ of a pound, and $\frac{1}{7}$ of $1\frac{19}{23}$ of $14\frac{7}{11}$ of a penny.
2. Express $\sqrt{\frac{0\cdot0864\times7\cdot53}{0\cdot00391}}$ correctly to the nearest integer.
3. Express $\frac{1\cdot5476\times10\cdot618}{2\cdot6547}$ in its simplest form.
4. A reduction of 20 per cent. in the price of apples would enable a purchaser to obtain 120 more for a sovereign. What may the price be before reduction?
5. A merchant lays out £1000 in buying cloth in England at 3 shillings a yard. He takes the cloth to France at an expense of 3 pence a yard for carriage, packing, &c., and paying a duty of 42 centimes a metre. He sells half the cloth at 8 francs a metre, the rest at 6 francs a metre. What profit does he make. [Express the result in pounds, shillings, and pence, and assume 25 francs to be equal to £1, and a metre to be $39\frac{3}{8}$ inches.]
6. Simplify $\left(\dfrac{x}{x-1}-\dfrac{1}{x+1}\right)\cdot\dfrac{x^3-1}{x^6+1}\cdot\dfrac{(x-1)^2(x+1)^2+x^2}{x^4+x^2+1}$.
7. (*a*) Find the sum of five numbers in arithmetical progression, the second being 4 and the fifth $8\frac{1}{2}$.
(*b*) Also find the sum of five numbers in geometrical progression, the third being 3 and the fifth 27.
8. Divide £5 among a man, a woman, two boys, and a girl, so that the man has as much as the two boys and the girl together, the woman and girl together as much as the two boys together, and the man and girl together half the whole amount.
9. Find the greatest common measure of—
$x^4+14x^3+67x^2+126x+72$,
$x^4+3x^3-31x^2-123x-90$,
$x^4+13x^3+49x^2+27x-90$.
10. A man pays £150 a year for rent, water-rate, and poor-rate, the rates being charged on the rent he actually pays. If the rent were reduced 10 per cent., the rate per £ of the poor rate 25 per cent., and of the water-rate 5 per cent., he would pay in all £130, 1*s.*, 0*d.*; whereas if poor-rates were doubled and water-rate reduced 5 per cent., the rent being as at first, he would pay £169, 10*s.*, 0*d.* What did he pay for rent, poor-rate, and water-rate respectively?

SOLUTIONS.

1. Result in pounds $=\frac{5}{11}\{\frac{3}{20}+\frac{3}{4}(\frac{4}{9}-\frac{2}{5})\}+\{\frac{1}{7}\times\frac{42}{23}\times\frac{161}{11}\times\frac{1}{240}\}$,
$=\frac{5}{11}(\frac{3}{20}+\frac{1}{3}-\frac{6}{20})+\frac{7}{440}$,
$=\frac{5}{11}(\frac{1}{3}-\frac{3}{20})+\frac{7}{440}=\frac{5}{11}\times\frac{11}{60}+\frac{7}{440}$,
$=\frac{1}{12}+\frac{7}{440}=$&c.
2. Exprs $=\sqrt{(\frac{8640\times753}{391})}=\sqrt{(\frac{144\times60\times3\times251}{391})}=12\times2\times3\sqrt{\frac{1256}{391}}$
$=12\times2\times3\times\sqrt{3\cdot2098}=$&c.
3. Exprs $=\dfrac{\frac{15476}{9999}\times10\cdot618}{\frac{26547}{9999}}=\dfrac{15475\times10\cdot618}{26545}=\dfrac{3095\times10\cdot618}{5109}=$&c.
4. He gets a certain No. for 240*d.*, each costs a certain price,
$\therefore$ No. $\times$ price $=$ (No. $+120$) $\times\frac{1}{5}$ price;
or No. $\times$ price $=\frac{4}{5}$(No. $\times$ price)$+96$ price;
$\therefore\frac{1}{5}$(No. $\times$ price)$=96$ price,
i.e. $\frac{1}{5}$ No. $=96$, and No. $=480$, $\therefore$ price of each $=\frac{1}{2}d$.
Reduced price $=\frac{4}{5}$ of $\frac{1}{2}=\frac{2}{5}d.$, $\therefore$ No. at reduced price $=\frac{5}{2}\times240=600$, and $600-480=120$, as it should by the problem.
Otherwise: $\frac{1}{5}$ off the price will require $\frac{1}{4}$ more apples, (see McLELLAN'S MENTAL ARITH. PT. II.) $\therefore$ 120 apples $=\frac{1}{4}$ No. for 240*d.*
i.e. Cost of 1 apple $=\frac{1}{2}d.$ as before.
5. 1 metre $=\frac{39\frac{3}{8}}{36}$yds $=\frac{35}{32}$yds; 1 franc $=£\frac{1}{25}$; 42 centimes $=\frac{42}{2500}$£.
No. yards bought $=£1000\div£\frac{3}{20}=\frac{20000}{3}$yds.
No. metres sold $=\frac{20000}{3}\times\frac{35}{32}$ metres. $3d.=\frac{3}{240}=£\frac{1}{80}$.
One-half @ 8 francs, and one-half @ 6 francs = whole at 7 francs.
Gn $=£\{\frac{20000}{3}\times\frac{35}{32}\times\frac{7}{25}\}-\{1000+\frac{20000}{3}\times\frac{1}{80})+(\frac{20000}{3}\times\frac{35}{32}\times\frac{42}{2500})\}$
$=(\frac{20000}{3}\times\frac{35}{32}\times\frac{7}{25})(1-\frac{6}{100})-\{1000+\frac{20000}{3}\times\frac{1}{80}\}$
$=(\frac{20000}{3}\times\frac{35}{32}\times\frac{7}{25}\times\frac{94}{100})-1000(1+\frac{1}{12})$
$=\frac{35\times7\times94}{12}-\frac{13000}{12}=\frac{23030-13000}{12}$
$=\frac{10030}{12}=£835$ 16*s.* 8*d.*

6. $\text{Exprs}=\frac{x^2+1}{x^2-1}\cdot\frac{x^3-1}{x^6+1}\cdot\frac{(x^2-1)^2+x^2}{x^4+x^2+1}$.

$=\frac{x^2+1}{x^2-1}\cdot\frac{x^3-1}{x^6+1}\cdot\frac{x^4-x^2+1}{x^4+x^2+1}$.

Now, $x^4-x^2+1=\frac{x^6+1}{x^2+1}$ and $x^4+x^2+1=(x^2+x+1)(x^2-x+1)$.

$\therefore \text{Exprs}=\frac{(x^2+1)(x^2+x+1)(x-1)(x^6+1)}{(x+1)(x-1)(x^6+1)(x^2+1)(x^2+x+1)(x^2-x+1)}=\frac{1}{x^3+1}$

7. (a) $s=(a+l)\frac{n}{2}$. $a+d=4$, $a+4d=8\frac{1}{2}$, $\therefore d=\frac{3}{2}$, $\therefore a=\frac{5}{2}$,

$\therefore s=(\frac{5}{2}+\frac{17}{2})\frac{5}{2}=27\frac{1}{2}$.

(b) $ar^2=3$, and $ar^4=27$, $\therefore r=\pm 3$, $\therefore a=\frac{1}{3}$, and the series is $\frac{1}{3}+1+3+9+27=40\frac{1}{3}$; or, taking the negative sign, $\frac{1}{3}-1+3-9+27=20\frac{1}{3}$.

8. 1 man+1 woman+2 boys+1 girl get 100*s*.
i.e. (2 boys+1 girl)+(2 boys—1 girl)+2 boys+1 girl get 100*s*.
or, 6 boys and 1 girl would get 100*s*. (*A*)
Again, 1 man+1 girl get 50*s*.
i.e. (2 boys+1 girl)+1 girl get 50*s*.
or, 1 boy and 1 girl get 25*s*. (*B*)
Subtracting *B* from *A*, 5 boys get 75*s*.; and the shares are—each boy 15, the girl 10, the woman 20, and the man 40 shillings.

9. Observe that in *A* and *B* the sum of the coeff. in the odd places, signs included=sum of coeff. in even places=140, hence each is divisible by $x+1$. In *C* the sum of all the coeff. vanishes, hence $x-1$ is a factor. See McLellan's Teachers' Handbook—the "K Method," p. 92. Thus for *A* we have

$$\begin{array}{r|rrrrr|r} & 1 & +14 & +67 & +126 & & +72 \\ -1 & & -1 & -13 & -54 & & -72 \\ \hline & 1 & +13 & +54 & & & +72 \\ -3 & & -3 & -30 & & & -72 \\ \hline & 1 & +10 & +24 & & & \end{array}=(x+8)(x+3)$$

$\therefore A=(x+1)(x+3)(x+3)(x+8)$, and similarly,
$B=(x+1)(x+3)(x+5)(x-6)$.
$C=(x-1)(x+3)(x+5)(x+6)$.

$\therefore$ G.C.M. $=x+3$. See also McLellan's Handbook, p. 105, for another method.

10. Let r=rent in pounds, w=water-rate per £, p=poor-rate do.
Then $r+rw+rp=3000s$.
$\frac{9}{10}r+\frac{9}{10}r(\frac{19}{20}w)+\frac{9}{10}r(\frac{3}{4}p)=2601s$.
$r+\quad r(\frac{19}{20}w)+\quad r(2p)=3390s$.
Simplifying we have
$r(1+\quad w+\quad p)=£\ 150$.
$r(20+19w+15p)=\ 2890$.
$r(20+19w+40p)=\ 3390$.
From 2nd & 3rd, $rp=£20$. Then from 1st and 2nd, $rw=£10$, and $r=£120$.

GEOMETRY.

1. If the square described on one side of a triangle be equal to the sum of the squares described on the other two sides, prove that the angle contained by these sides is a right angle.

2. Prove that the quadrilateral formed by joining the middle points of the sides of any quadrilateral is a parallelogram; and that its area is half that of the given quadrilateral.

3. If a right line be divided into two equal and into two unequal parts, prove that the sum of the squares described on the unequal parts is double the square on half the line and double the square on the intermediate part.

4. Divide a given right line into two parts so that the sum of their squares shall be equal to a given area. Show how the requisite construction is made, and state when it is impossible.

5. If a quadrilateral be inscribed in a circle prove that the sum of one pair of its opposite angles is equal to the sum of the other pair.

6. If a quadrilateral be circumscribed to a circle prove that the sum of one pair of its opposite sides is equal to the sum of the other pair.

7. Find the locus of the centre of a circle whose circumference passes through two given points.

8. Describe a circle through two given points and touching a given circle. Determine the number of solutions of the problem, and when it is impossible.

9. Prove that the lines drawn bisecting the three internal angles of a triangle pass through a common point: and show that the same theorem holds for the lines bisecting one internal and two external angles of the triangle.

10. Divide the circumference of a circle into thirty equal parts, giving the requisite construction.

Hints and Solutions.

1. I. 48.

2. Let *ABCD* be the quadrilateral, *E* the mid. pt. of *AB*, *F* of *BC*, *G* of *CD*, *H* of *DA*. Draw the diagonal *DB*. Then in the $\triangle ADB$ the sides are cut proportionally, $\therefore HE$ is par. to *DB*. (VI.2)
So also *GF* is parallel to *DB*, $\therefore HE$ is parallel to *GF*, (I. 30)
So " *HG* " *EF*, $\therefore HGFE$ is a ▱m.
Also *AD* is double *AH*, $\therefore \triangle ADB$ is quadruple $\triangle AHE$. (VI.19)
i.e. $AHE=\frac{1}{4}ADB$; so also $FCG=\frac{1}{4}DBC$, and thus
AHE and $FCG=\frac{1}{4}$ whole quad. In the same way *EBF* and *DHG* $=\frac{1}{4}$ quad., *i.e.* these 8 $\triangle$'s$=\frac{1}{2}$ whole quad. $\therefore$ the remainder, viz., the ▱m $HF=\frac{1}{2}$ quad.

3. Let *A* *C* *D* *B* be the given line,
Then (II. 7) $BC^2+CD^2=2BC,\ CD+DB^2$,
or $AC^2+CD^2=2AC,\ CD+DB^2$. $\therefore AC=BC$.
Also (II. 4) $AC^2+CD^2+2AC,\ CD=AD^2$.
Add these equals and take $2AC$, *CD* from each side,
and $2AC^2+2CD^2=AD^2+DB^2$.

4. Let *AB* be the given line, *S* the side of a square=given area, (by II. 14). At *B* draw *BK* making $\frac{1}{2}$ rt. $\angle$ with *AB*. From centre *A* with radius=*S* describe a circle cutting *BK* in *P*. From *P* drop perp. *PQ* on *AB*. *Q* is the req. pt. The proof is obvious. *S* can never be $>AB$ (I. 20), and even when $S=AB$, *Q* coincides with one end of the line.

5. III. 22. See H. Smith's Geom., p. 177, for neat proof.

6. The sides are tangents to the circle. The tangents drawn from the same pt. are equal. Hence by addition the result req.

7. Let *AB* be the strt. line joining the given pts. Bisect *AB* at rt. $\angle$'s by the strt. line *CD*. The centre must lie in *CD*. (III. 3.)

8. Let *A*, *B*, be the given. pts. Take any pt. *C* in the given circum. Describe a circle thro. *A*, *B*, *C*, (IV. 5). If this circle does not touch the given circle, let *D* be the other pt. of intersection. Produce *AB* and *CD* to meet at *E*. Draw *EF* touching given circle at F. Describe a circle thro. *A*, *B*, *F*, this will be the circle req. (III. 35) and (III. 37). Two strt. lines can be drawn from *E* touching given circle, $\therefore$ two solutions possible. The construction fails when *AB* is parallel to *CD*. In that case draw strt. line parallel to *AB* touching the circle in *K*. Describe a circle round *ABK*. *AB* may also lie within the given circle. If it be equal to its diameter the solution fails.

9. Let *ABC* be the triangle. Bisect the angles at *B* and *C*. Let the lines meet at *G*. Join *AG* and produce it to meet *BC* in *H*. Then (VI. 3), $AB:BH=AG:GH$, and $AC:CH=AG:GH$ $\therefore$ (V.11), $AB:BH=AC:CH$, and $\therefore$ (V. 16), $AB:AC=BH:CH$, and $\therefore$ (VI. 3) *AH* bisects the angle at *A*. In the case of external angles we shall merely require to use (VI. A.).

10. Inscribe a regular hexagon (IV. 15), and let *AB* be one side. Also inscribe a regular pentagon (IV. 14), one of whose sides is *AC*. Then of 30 equal parts of the circum. *AB* cuts off 5, and *AC* cuts off 6, $\therefore BC$, their diff., contains one. Join *BC* and place 29 other lines round the circle each=*BC*.

Problems for Solution.

By J. H. Thomson, Monkton, Ont.—

1. The current in the centre of a stream is twice as great as it is at the edge. A man rows up the edge in 30m., and down the centre in 20m.; find how long it would take him to row up the centre of the stream.

2. I have two silver coins one of which is $\frac{7}{10}$ fine, and its diameter is 1 inch; the other one is $\frac{8}{10}$ fine, and its diameter is $1\frac{1}{4}$ in.; the first one is worth $\frac{1}{3}$ as much again as the second; find of ratio their thicknesses.

Algebra.

3. Solve the equations—

(1) $\frac{1}{21x^2-13x+2}+\frac{1}{28x^2-15x+2}=12x^2-7x+1$.

(2) $\left(\frac{x-a}{x+a}\right)^{\frac{1}{2}}+\left(\frac{x+a}{x-a}\right)^{\frac{1}{2}}=\sqrt{3}$.

(3) $x+y+z=5,\ \frac{x+ay}{y+bz}=\frac{y+az}{z+bx}=\frac{z+ax}{x+by}$.

4. Sum the series $x+2x^2+7x^3+20x^4+61x^5+\ldots ad.\ inf.$, x being less than unity.

By J. K. H., Bradford—

5. A merchant bought 100 bushels of seed for $100.00, consisting of clover seed at $10.00 a bush., wheat at $1.00, and oats at 12½c. How many bushels of each did he buy?

Solution by the proposer—

The price of the wheat does not affect the average price. Then sum of bush. of clover seed and oats equals the sum of their value.

Let x=numbers of bush. of oats, and y=clover seed,

Then $x+y=\frac{1}{8}+10y$ $\left.\right\}$ $x=72$ bush. oats,
$7x=72y$ $\quad y=7$ " clover seed,
rem=21 " wheat.

We add the following—

5. A ship with a crew of 175 men set sail with a supply of water sufficient to last to the end of the voyage; but in 30 days the scurvy made its appearance, and carried off three men every day, and at the same time a storm arose which protracted the voyage three weeks. They were, however, just enabled to arrive in port without any diminution in each man's daily allowance of water. Required the time of the passage, and the number of men alive when the vessel reached the harbor.

Solution—

Let x=time in days. The water saved by deaths = the water used by the protraction, from which we have

$$175x-(21\times175)=175x-\tfrac{1}{2}(3x^2-177x+2610),$$

whence x=79 days, and the number of men left at the end of the voyage $=175-[(79-30)\times3]=28$.

Notes and Answers to Correspondents.

A correspondent asks for rules for computing the amount of hay or straw in a mow. We do not know of any. Perhaps some of our readers will be good enough to send us rules founded on careful experiment.

T. M. H., Port Hope—This has appeared in the Journal before. See vol. iii., page 101, "A Mathematical Puzzle."

In the July number for 1882 we took occasion to propose the question, "Why should the multiplication table be taught to 12 times 12 and there stop 'forever and forever'?" We are glad to find our view of the matter confirmed by the authority of Leonard Waldo, S. D. (Harvard), Astronomer in the Observatory of Yale College, who has published in a very convenient form the extended table up to 100 × 100. Teachers in primary schools will find this table very useful in abbreviating the labor of revising their pupils' work, and also for memorising more than the usual multiplication table. It will to a certain extent take the place of that very convenient but more expensive little instrument, the Arithmometer or multiplying machine, as both multiplication and division of large numbers can be accomplished by its aid with very little labor and with great rapidity and accuracy. We have found it very convenient indeed. To over-worked teachers it will be a boon, in the way of saving much strain and drudgery. Boston, 1882.

At a recent meeting of the Canadian Institute, Prof. G. P. Young made an important communication on the solution of higher equations. We are glad to find the veteran metaphysician return to his first love, Mathematics.

Correspondence.

To the Editor of the Canada School Journal:

Dear Sir,—Will you kindly inform me through the columns of your invaluable Journal whether mental arithmetic and drawing are required at the next examination for entrance to high schools? Are they optional or obligatory subjects? A number of teachers are not quite sure, and your reply will give much satisfaction.

Yours truly,

March 27th, 1883. Teacher.

[In our Official Department in this number, we publish the subjects of examination for entrance. By this it will be seen that Mental Arithmetic and Drawing are both obligatory subjects. The Drawing is as given in Walter Smith's "Primary Manual" and Drawing Cards; and the paper thereon will be valued at 60 marks.]

Special Articles.

RELATION OF GRAMMAR AND LITERATURE.

The occasion moves me to protest, with all possible earnestness, against the course now too commonly pursued in our studying and teaching of English literature. We seem indeed to have got stuck fast in the strange notion, that children are never learning anything unless they are *conscious* of it: and so we are sparing no pains to force in them a premature and most unhealthy consciousness of learning. Nothing is left to the free and spontaneous vitalities of Nature. Things have come to such a pass with us, that a pupil must live,

> Knowing that he grows wiser every day,
> Or else not live at all, and seeing too
> Each little drop of wisdom as it falls
> Into the dimpling cistern of his heart.

Hence our education is kept at a restless fever-heat of ambition and emulation; and this naturally involves an incessant urging of high-pressure methods. We have no faith in any sowing, save where the seeds "forthwith spring up, because they have no deepness of earth." So eager and impatient are we for immediate results, that the conditions and processes of inward growth are, as far as possible, worked off and got rid of. But the results attained by this straining and forcing are necessarily false and delusive; and presently wither away, because they have no root.

Thus, in our hot haste to make the young precociously intellectual, we are just burning real health and vigor of intelligence out of them; or, at all events, the best that can be gained by such a course is but what Wordsworth justly deprecates as "knowledge purchased with the loss of power." For, in truth, when people, of whatever age, see themselves growing from day to day, they are not growing at all, but merely bloating; a puffing-up, not a building-up. And we shall assuredly find, in due time, nay, we are already finding, that those who get ripe before they are out of their teens begin to rot before passing their twenties. For such a forced and premature action of the mind can only proceed by overtaxing and exhausting other parts of the system; and must needs be followed by a collapse of the mind itself equally premature. In other words, where the brain is built up at the expense of the stomach, the brain itself must soon break down. And, as "the child is father of the man," so of course the smart boys of our educational hot-beds can only blossom out into grown-up intellectual manikins.

Now, in opposition to all this, be it said, again and again, that the work of education is necessarily secret and unconscious just in proportion as it is deep and generative. For the mind is naturally conscious only of what touches its surface, rustles in its fringes, or roars in its outskirts; while that which works at its vital springs, and feeds its native vigor, is as silent as the growing of the grass, as unconscious as the assimilation of the food and the vitalizing of the blood. When its springs of life are touched to their finest issues, then it is that we are least sensible of the process. So it is rightly said, "The gods approve the depth and not the tumult of the soul." Only the dyspeptic are conscious of their gastric operations; the eupeptic never think of their stomachs, are not even aware that they have any.

One would suppose that a little reflection on the workings of the infant mind might teach us all this. For children, during their first five years, before they can tell anything about it, or make any show of it in set recitations, and while they are utterly unconscious of it, do a vast amount of studying and learning; probably storing up more of real intelligence than from any subsequent ten years of formal schooling. And such schooling is no doubt best and wisest when it continues and copies, as far as may be, those instinctive

methods of Nature. But the pity of it is, that our education, as if "sick of self-love," appears to spurn the old wisdom of Nature, preferring to take its rules and measures from a proud and arrogant intellectualism.

In the mental and moral world, as in the physical, the best planting is always slow of fruitage: generally speaking, the longer the fruit is in coming, the sounder and sweeter when it comes; an interval of several years, perhaps of ten, or even twenty, being little time enough for its full and perfect advent. For growth is a thing that cannot be extemporized; and, if you go about to extemporize it, you will be sure to cheat or be cheated with a worthless surface imitation: that is to say, in place of a growth, which is slow and silent, but full of juice and taste withal, will be substituted a swift, loud, vapid manufacture.

What a teacher, therefore, most especially needs (and parents need it too) is the faith that knows how to work and wait;—to work diligently, carefully, earnestly; to wait calmly, patiently, hopefully;—that faith which, having its eye on the far-off future, does not thirst for present rewards,

> Nor with impatience from the season ask
> More than its timely produce.

For Nature, the honest old Mother, is far better, stronger, richer, than our busy and meddlesome intellectualists, who are straining so hard to get ahead of her, have the heart to conceive Human wisdom may indeed aid and further her processes; but it is stark folly to think of superseding them. And the forcing system now so much in vogue is essentially a levelling system; though, to be sure, it can only level downwards: perhaps, indeed, the circumstance of its looking to a compelled equality is what makes it so popular—a thing sure to issue in a manifold spuriousness! For its estimate of things is, for the most part, literally preposterous. Minds of a light and superficial cast it over-stimulates into a morbid quickness and volubility, wherein a certain liveliness and fluency of memory, going by rote, parrot-like, enables them to win flashy and vainglorious triumphs by a sort of cheap and ineffectual phosphorescence; thus making them, as Professor Huxley says, "conceited all the forenoon of their life, and stupid all its afternoon"; while, upon minds of a more robust and solid make, which are growing too much inwardly to do any shining outwardly, it has a disheartening and depressing effect. Thus the system operates to quench the deeper natures, while kindling false fires in the shallower.

Hence, no doubt, the feeling, which can hardly be new to any thoughtful teacher or parent, that "strongest minds are often those of whom the noisy *school* hears least." For, under the system in question, modest vigor is naturally eclipsed by pert and forward imbecility—the proper characteristic of minds that have not strength enough to keep still. But minds thus heated into untimely efflorescence can hardly ripen into anything but sterility and barrenness: before the season of fruitage, the sap is all dried out of them. To quote Professor Huxley again: "The vigor and freshness, which should have been stored up for the hard struggle for existence in practical life, have been washed out of them by precocious mental debauchery—by book-gluttony and lesson-bibbing; their faculties are worn out by the strain upon their callow brains, and they are demoralized by worthless, childish triumphs before the real work of life begins." Of those who are so incessantly driving on this bad system, we may well ask, with Wordsworth—

> When will their presumption learn,
> That in th' unreasoning progress of the world
> A wiser spirit is at work for us,
> A better eye than theirs, most prodigal
> Of blessings, and most studious of our good,
> Even in what seem our most unfruitful hours?

Now, Shakespeare, above all other authors, should be allowed to teach as Nature teaches, else he ought not to be used as a text-book at all. And here, I suspect, the great danger is, that teachers, having too little faith in the spontaneous powers of nature, will undertake to do too much, will keep thrusting themselves, their specialties and artificial preparations, between the pupil and the author. With average pupils, if of sufficient age, Shakespeare will make his way, slowly and silently indeed, but effectively, provided his proper efficacy be not strangled and defeated by an excess of learned verbalism. For his great superiority lies very much in this, that he writes close to facts as they are: no cloud of words, nothing, stands between his vision and the object. Hence with him, pre-eminently language is used as a transparent, invisible vehicle of thought and matter; so that the mind, if rightly put in communication with him, thinks not of his expression at all, but loses sight of it, in the force and vividness of what is expressed. Beautiful his speech is indeed; but its beauty lies in this very thing, that it is the crystal shrine, itself unseen, of the speaking soul within. The less, therefore, the attention of students is diverted from his matter to his language by external calls, the quicker and stronger will be their interest in him — an interest free, natural, and unconscious indeed, but all the better for that; so that the teacher will best further it by letting it alone; will most effectively help it by leaving it unhelped. For the learning of words is a noisy process; whereas the virtue of things steals into the mind with noiseless step, and is ever working in us most when we perceive it least. And so, when Shakespeare is fairly studied in the manner here proposed, the pupil will naturally be drawn to forget himself; all thought of the show he is to make will be cheated into healthful sleep; unless, ay, unless—

> Some intermeddler still is on the watch
> To drive him back, and pound him, like a stray,
> Within the pinfold of his own conceit.

(To be continued.)

NECESSITY OF RIGHT EARLY TRAINING.

BY HON. JOHN W. DICKINSON.

When the child begins to live his spiritual life, his mind has no facility in the exertion of his active power, nor has it any tendency to act in any particular manner.

As soon as the mind exercises itself in thinking, feeling, and choosing, it begins to acquire a facility in performing these acts, and there will accompany the facility an inclination to continue to do what is easily done. This facility and inclination constitute habit.

We say of very young children that their mental faculties are undeveloped, meaning that they have not yet formed habits of acting. The capacity of the mind for forming habits renders mental development possible.

The one cause of development of the faculties is exercise. From this may be derived one of the fundamental principles of a true method of teaching. From the same truth may also be derived an idea of the importance of right early training.

If the powers are developed by use, it follows that a method of teaching must be devised which will present right occasions for their proper exercise.

As the kind and degree of activity the mind exerts during the early developing period of its existence determine its character, it must be placed in care of a skilful director from the first.

He will study to find, if possible, what ideas the mind in its early existence is adapted to form, what emotions its natural activity will produce, and what choices its natural acts of thinking and feeling will prompt it to make.

No unnatural interference by a controlling power must be allowed to defeat the ends which nature has planned for the child to secure for himself.

There is a period in every child's early life that the educator should improve in promoting the physical growth of the young being placed under his care.

At first the child is to live a physical life, and be controlled in his movements largely by the animal principle of action. At this time ideas will spring up in his mind as the material world is brought in contact with his senses. His emotions will be sympathetic rather than rational, and his acts will owe their origin to the impulses of his nature rather than to his reason. But notwithstanding all this, it should not be forgotten that the infant mind will begin to take on its character as soon as it begins to move itself in producing its mental states.

For this reason the spontaneous activity of childhood should be directed—not forced, but simply directed—into those forms which will produce some useful elementary knowledge, or at least a thirst for knowledge, and lay the sure foundation of a harmonious development of all the faculties.

We need, then, a system of training which shall precede the formal processes to which the child is usually subjected on entering the primary school. The true kindergarten seems to offer this training.

I say a true kindergarten; for, unless kindergarten training is philosophical in its nature and methods, it will be adapted to do more harm than can be done by the application of unnatural training in any one of our present system of schools.

This is due to the fact that the infant mind yields readily to external influences, and that early impressions are everlasting.

For these reasons, care should be taken that the youthful powers are not checked in their spontaneous growth by arbitrary control, nor stimulated to premature activity by unnatural incentives, nor suffered to become warped in their character by neglect to direct them to a proper and healthful exercise.

The young yield readily to authority, and are directed easily by example. It follows that those who are to direct youthful development toward intellectual and moral character, must themselves be what they would have their pupils become.

They should be so acquainted with the laws in accordance with which the infant powers unfold themselves, that they may be able to co-operate with nature by removing all artificial obstructions, and supplying the conditions to a natural and easy development.

We are yet hardly aware, in this country, of how much consequence it is to the future progress of the child that he be permitted from the first to grow up in the presence of wise and good instructors.

If the children from their earliest years are the objects of right influences, and are led to the natural exercise of their faculties, we have a right to expect that they will become fitted for a happy and successful life.

When the child enters the primary school, he will be put to reading, spelling, constructing words into simple sentences and his sentences into simple discourse. He will combine numbers, practise singing and drawing, and have presented to him a systematic course of lessons on the qualities of objects. He will be made subject to such rules of conduct as have for their object the right activity of the intellect, sensibility, and will—such activity as should ultimately lead to the power of complete self-control.

For this work, the child, if possible, should have a previous preparation.

Without violence to his youthful nature, he may be so directed in those exercises that have amusement for their end as to enter, at about seven years of age, the primary school free from bad habits, and with his powers trained to self-activity, and his mind stored with a rich collection of facts. He will then be ready for rapid progress in those studies which the primary schools are designed to teach.

If all our children could pass from a well-conducted kindergarten into their courses of study, I am sure it would at once appear that a foundation had been laid for rapid and successful teaching.

It is known by those who have made the kindergarten system of instruction an intelligent study, and have had experience in the results produced, that children trained under its influences are more readily controlled, that they are superior in intelligence to children who enter the elementary schools without previous training that they have a more eager thirst for knowledge, and that they have a much better command of language.

If this is true, then the period of elementary instruction, as now established, might be shortened, without subtracting from the good results now secured.

It would be well if the spirit of the kindergarten could be carried into the public schools.

All objects of study, or adequate representatives of the objects, should be brought into the presence of the children for their observation, and they should be permitted to obtain a knowledge of them by an exertion of their own active power. Here, too, as in the kindergarten, the teacher should do nothing but direct.

He should establish the conditions of study, and then leave the pupil to work out for himself his own knowledge and his own discipline.

In some modern schools, the ancient custom of assigning lessons from books to be studied, and committed to memory by the children, has been partially abandoned; but in the place of it a new custom has been introduced, which in too many cases consists simply of lectures and explanations by the teacher.

The new method is no better than the old; for both alike make language the original source of our ideas, and they alike appeal exclusively to the passive powers.

Our elementary schools may learn also from the kindergarten exercises that there is an order of development of the powers to be observed, and a logical relation of ideas to be provided for, in all grades of instruction.

This order and this relation are not much regarded by elementary instructors; and there results from the neglect an unsystematized plan of work that has no definite meaning, nor certain results.

A thorough knowledge of the philosophy of education is needed, to reduce our plans of instruction to unity.—*The Public School.*

SOME PEDAGOGIC ERRORS.*

During a recent ramble among schools I jotted down in my notebook a few errors, as they seemed to me, which I detected in the work of certain teachers. Believing these faults—I am almost inclined to call them radical defects—to be more common among inexperienced instructors than we are willing to admit in these days, I venture to reproduce my criticisms, with a few comments thereon, for more general comparison.

2. "*The teacher talks too much.*" This is an especial temptation to an instructor who is well versed in the subject under consideration. Saturated with knowledge, he is like a wet sponge, needing only a touch to cause his information to drip out upon the class. In the recitation criticised as above, the teacher was intelligent, almost learned. His remarks were excellent, and the pupils were interested, and perhaps instructed; but the time was so occupied

* By J. Dorman Steele, in *Central School Journal.*

that there was no opportunity for regular recitation work. No test was made of the pupils' preparation of the lesson, no searching questions were asked, no analysis of the subject was given. It was merely a delightful talk to a number of girls by a scholarly gentleman. It was not teaching. In a neighbouring school I witnessed a similar recitation, and while conversing with one of the pupils after class, he slyly remarked "We always get Miss —— to talk about something when we haven't got our lesson." Now, the lecture system is beneficial only to advanced pupils, young men and women thirsting for knowledge, who have absorbed all their text-books contain, are eager to know what their professor can impart, and whose minds are trained to receive and retain information.

With young pupils, mere beginners in study, ignorant of the methods of mental acquirement and assimilation, with no especial taste for work and no power of concentration, there must be class-drill and proofs of previous labor demanded. The recitation is for the benefit of the pupil, not the teacher. In general, it is mentally more profitable to tell a thought than to receive it. Under the talking-system pursued in some schools, the teacher grows much faster than his pupils. He is actively employed all the time, while they are mere recipients, delighted sometimes, indeed, but not held to labor for what they wish to know. He acquires a choice of words, and learns to talk fluently and tell what he knows; while they get neither experience in expression nor criticism on their use of language and their grammatical mistakes.

A little information may often be imparted to great advantage, it is true, but only to enliven the monotony of hard work, and to act as a stimulant to fresh exertion. The maximum of talking on the part of the pupil and the minimum of talking on the part of the teacher is the perfection of a recitation. In my own classes, when topical recitations are fully established, I have always required the class to conduct the entire recitation from the blackboard diagrams, with only an occasional suggestion or remark during the progress of the work, and a general commentary at the close.

2. "*The teacher makes no point.*" In the recitation I witnessed, there seemed no special goal to be reached, but the pupils were wandering aimlessly about, toiling to get over a certain number of pages of the book. When they finished, it was with an air of relief that another task was performed. On no cheek was there the glow of victory. No one seemed to feel that he had taken a step, a definite, measured step, in the path of knowledge, and had gone up a little higher to a better outlook. Neither teacher nor pupil appeared to grasp the relations of that lesson to the one of the day before, and the one assigned for the succeeding day, whereby it became a link in the chain of the term's work, which if dropped out by inattention or absence would break the whole asunder.

Now, every lesson should have an object, else the children had better be out on the play-ground breathing fresh air, and developing their muscles. The class should assemble for a specified purpose; to master some difficulty clearly perceived beforehand, upon which they have worked during the time of preparation and are to report their success; to give clearer intelligence about what they have done; to get fresh facts; and to prepare for a new struggle and advance. They should know where they stand when they come to class, and whether they have conquered the point of the lesson and when they have, it should be with a distinct idea of something they have gained or failed to gain. At the close of each lesson, the teacher should tell the class the object of the next day's work, give directions about doing it, and remove any insurmountable obstacles, thus preparing the way for intelligent, profitable, and economical labor on the part of the class, and preventing the necessity of individual help, which is so annoying to the teacher and often so injurious to the pupil. If the teacher unfortunately uses a text-book which does not give an analysis of the lesson in bold paragraph headings, he should prepare such an outline and let the students classify the lesson. Many studies admit of a uniform analysis. Thus, in Chemistry I have used the following topical outline—Source, Preparation, Properties, Uses, Compounds; and in the periods of Geology—Location, Kinds of Rocks, Fossils, Remarks. These titles answer as labelled pigeon-holes, in which the pupil can sort off all the facts of the lesson, and, to *stretch* the figure, are like elastic bands, which will expand to receive all knowledge one may gather in future life. They aid alike in learning, reciting, and retaining a lesson, and are invaluable in all teaching and studying worth the name.

When a scholar thus looks over the advance lesson, finds the thick underbrush parted by a strong hand, so as to give him an unobstructed view to the end, detects its point, has its analysis clearly in his mind, and he is warned of the dangerous places—he feels as if he half knew the lesson already, and sets about it with a light heart and an assurance of success. Such a course begets in him confidence, both in himself and his teacher. With each lesson there is a consciousness of something done under the direction of a skilful guide. School work is reduced to a system; the pupil knows where he is, and how fast he is advancing; he is constantly reaching a result; and in the satisfaction of progress, the delight of acquisition, and the pleasure in employing his powers usefully, he finds a daily interest in his work.

3. "*Pupils are kept in at recess and after school to study.*" This is literally a *crying* evil. It is a custom handed down to us from the past, and sanctioned by age; but teachers are perceiving its enormity, and are fast discarding the practice. It is both unnecessary and injurious. Scholars may be profitably directed to remain after school for the purpose of receiving suggestions, counsel, etc., from the teacher, but not to study, and at *recess* NEVER! The object of an intermission is to preserve the health of the pupil. Nature demands this, and it is her right. No teacher should rob a child of legitimate exercise. It is a physical wrong. Moreover, in play the superabundant flow of the animal spirits is worked off, and that force is employed in throwing a ball, or running a race, which would otherwise find vent in mischief or restlessness. The whole fifteen minutes usually given is demanded, and the thoughtful teacher, instead of depriving a pupil of any of those precious moments, should urge every one to use them in the best manner possible. It is well to explain this object, especially to the few studious girls who are inclined to keep their desks at that time, and to convince them of their duty to preserve their health, and that play-hours should be as sacredly devoted to recuperation as study hours to work. Even when the weather is unfavorable for out-door sports, the necessary relaxation can be secured by throwing open the windows far enough to obtain fresh air (taking pains that no one shall receive the direct draught) and then putting the school through the light gymnastics.

Keeping a pupil after school to learn a lesson is wrong in principle. It begets a dislike for the teacher, the school-room, the study, and all connected with it. What should be a delight, is made a punishment. Moreover, it punishes the teacher as much as it does the pupil. It wearies him unnecessarily, and, depriving him of time for rest and study, unfits him for work, and so robs the school of its right—his best services. The difficulty with the pupil is generally an inability to concentrate the mind upon the lesson. If that cannot be secured during the fresh, vigorous hours of the day, under the inspiration of the class, and example of companions, the teacher may well despair of success under less favorable conditions.

I cannot sum up the matter better than in the words of Superintendent Harris: "The cure prescribed (*i.e.*, retention after school) only aggravates the disease. Prepare the lesson so that the pupil can carry it by storm, and never allow him to make a dissipated, scattered attack upon it."

WHAT DO CHILDREN READ?

From our early youth we have read that "a little learning is a dangerous thing." The truthfulness of this old saw is forcibly and sadly illustrated at the present day in observing the result of simply teaching a child to read. The ability to obtain ideas from a printed page is in itself a delightful occupation. It is all the more delightful when we consider that this ability is usually acquired at a time when the child has little or no fund of thought upon which to draw for the purpose of whiling away his leisure hours, and also that it is at a time when the mind of the child is exceedingly active, and ready for anything which promises excitement. As soon as a child learns to read, he has a new world opened to him, and the question at once occurs: From all this material scattered so pro fusely on every side, what shall I read? This question, we repeat, is suggested at once, and it must be answered. Leave the child to himself, and his natural instincts, his love of adventure and excite ment, and his unformed taste, readily lead him to choose that reading which satisfies his nature. As the mind grows like that upon which it feeds, but little time elapses before his imagination is so excited by the unreal, his judgment so warped by the false, and his taste so depraved by the unatural, that he becomes unfitted for the dull, prosy affairs of actual life, and longs for those scenes where freedom runs riot and all law and restraint are unknown.

As we walk the streets of our cities and villages, and observe how profusely a vile and debasing literature is scattered broadcast over the land, how cheap it is, what pains are taken to advertise it and bring it to the attention of our boys and girls, how attractive it is made, and how well calculated to inflame the youthful imagination —we shudder as we contemplate the future, unless some powerfu counteracting influence can be brought to bear against it. The in fluence of a certain class of publications is so pernicious, so destruc tive of youthful morality, and ultimately fraught with so great danger to the State, that we are firmly of the opinion that a law should be passed by our present Legislature licensing and regulating the sale of books. newspapers, and magazines. Any publication intended for children to read which makes a criminal a hero, which exalts lying and theft and murder, and ridicules all the nobler sentiments of humanity, should be, in the eye of the law, a disturber of the peace and prosperity of society, and be treated accordingly.

We say the strong arm of the law should intervene, and rescue the youth of the land from the debasing influence of this vile literature; but we have small hope that any effort will be made for this purpose. Publishers of this class of newspapers and books will continue to scatter their poison broadcast, and grow rich in doing it; many of the boys and girls of our land will eagerly devour it, and as a consequence be induced to live lawless and irresponsible lives and in process of time become inmates of our jails and penitentiaries. All this we fear will continue to go on for years to come, as it has for years in the past, before the general public will become fully alive to the magnitude of the evil.

We introduce this subject at the present time, not for the purpose of advocating a stringent law which should regulate the publication and sale of the literature in question, but for the purpose of directing public attention to its gravity and seriousness, and offering a word of suggestion to our teachers.

The danger would be largely averted if children could be kept longer under the influence of the school. They would then not only learn to read, but would acquire a taste for good reading. As their minds were cultivated, and they became possessed of broader views of life and the social relations, and so were better able to disnguish the real from the sham, they would turn away in disgust m that which so charms the ignorant and those possessing an uncultivated taste. More schools and more schooling should be the war-cry of those who wish to wage battle against this demon who is casting such a blight over so many innocent lives.

To teachers we would say: You can do something toward averting the evil by making use of every opportunity for creating a taste for pure and healthful literature. If the opportunity does not offer itself, make it. As far as possible, know what every one of your pupils reads. Frequently you will find it necessary to convince the parents that their children are receiving injury from the papers they permit them to read. Unlettered fathers and mothers cannot realize the danger which threatens their offspring from reading papers which they say were purchased at a reputable bookstore. Point out the danger, and substitute something better if possible. Be sure that you fully appreciate the importance of the question, and your sense of right and duty will readily suggest ways and means to do all that lies within your power.—*Pacific School Journal.*

CRITICAL READING.

JOHN M. GREGORY, LL.D.

Let me repeat that reading is a two-fold art: 1, the translation of written language into oral language; 2, the interpretation of the thought read. By the first we express in sounds what the author wrote in signs. In the second we re-think what the author thought. I advance to the second.

The mastery of the thought is the final aim of all reading. Even to read well for others demands to some extent the understanding of the thought. We must get the meaning in order to give it, though to many readers it may be fairly said, as it was to the eunuch, "Understandest thou what thou readest?" In the use of reading, as the means of gaining knowledge, the second art is the all-important one. To read for others is one thing; to read intelligently for ourselves is much more difficult, as well as more useful.

Reading for the thought, or the critical reading of authors, which I have said should alternate in the reading classes with the reading for language, embraces several somewhat distinct steps or parts.

1. The critical reading of an author requires us to know who and what the author was; when and where he lived; the aim and circumstances of his writing the book or piece in question, and something of his times or cotemporaries The better we know an author's history, the better we shall understand his thought. This is the preliminary step.

2. The first step in the interpretation of a reading lesson is the careful study of the meaning of the words used. Next to this, and not to be separated from it, is the gaining of the exact meaning of the sentences. To get the full meaning of what the author says must precede any fair criticism of his style, his spirit or his views. To accomplish this fully the reader must translate the meaning into other words. This is one of the most useful processes in all teaching, since it compels the pupil both to think and speak.

3. The study of the author's allusions, illustrations, and figures of speech, his tropes, metaphors, similes, personifications, etc., must come next. They are a part both of the language and of the thought, and the reader must enter fully into these, must picture them forth in all their breadth and beauty, or he fails to think all the author thought, and to see all the author saw. Here too the pupil may try translation, seeking to change the figures both into plain statement, and into other figures. Since nearly all language is more or less figurative, this exercise is extremely useful as a discipline, and as a training for all intelligent reading. It gives to

the imagination that quick and ready power of picture-making so useful in thinking and so charming in speech.

4. The argument of the author will next come under review. His proposition, affirmed or implied; his premises, whether facts or assumptions; his inferences and conclusions; all these must be understood and put to question. All profitable reading, said Sir Wm. Hamilton, is a silent debate between the book and the reader, and this is toue whether the article read is poetry or prose, story, sermon or epic song. Young readers can do but little of this. To rise, as it were, above the author, and sit in judgment on his work; to call into question the truth of his statements, the soundness of his arguments, and the validity of his views and opinions, implies a talent and intelligence akin to his own. The author and reader hold conferences over each fact or truth stated. Sentence by sentence, thought by thought, the reader must ponder the author's words; and assent to or reject with intelligent reasoning of his own. If it is history, he must scan its assertions, weigh well its probabilities, compare its several parts, and interpret for himself its facts and events. If it is poetry, he must reanimate its imagery, see again its visioes, hear its rhythm and melody, and under all this find and judge the theory and spirit of the author. So in each department, the true reader must analyze, "read, mark, learn, and inwardly digest," the book or chapter he peruses. Only the strongest mind can do this thoroughly; but all who read with pleasure or profit must do it to some extent. To learn to do this is the last, best, and highest aim of the reading class. It begins in the simplest reading. It rises with steady steps to the highest.

5. The study of the style is also a part of the critical study of an author. Simplicity, purity, clearness, precision, force, elegance, beauty of expression, these great qualties of style are matters of thought as well as of speech, and are constantly under the eye of the reader. He can be taught by one who knows, to detect and understand all these in his daily reading lesson, and few attainments in the art of reading will be found more useful. An obscure style is often mistaken by the young or careless for profound. He stands in a sort of awe of the printed page, and thinks what is not clear must be beyond his depth. So on the other hand clearness is often mistaken for truth. What seems so plain and easy to understand is counted as obvious truth. The reader must learn to question both false darkness and false light.

A WARNING.

I must not close this talk without a warning against that bad and pernicious notion adopted by some teachers who would make the reading lesson the vehicle for all sorts of information, a scrap bag for all the "odds and ends" of knowledge. Every fact in the universe is related in some way to every other fact, and an ingenious teacher can hitch on to any reading lesson all he happens to know. Reading of a stone, he can lead his class to stars and seas; to ages past and kingdom come; to paleontology, poetry, and politics; to travel, history, science, literature, and common life. It may all be vastly interesting, but as far as real education or instruction is concerned, it is as useless as a sky-rocket would be to guide a benighted traveller through a wilderness. It is mere Chinese crackers and fire-works, which amuse but cannot enlighten. A pertinent fact brought forward to illustrate a point under discussion is often enlivening and instructive, but a budget of irrelevant facts is an obstacle to a true understanding.

My time is up, and I leave to another the questions of *means* and *methods* of training in this critical reading of authors.

An *oath* is a vain formality which binds no scoundrel and strengthens not the statement of an honest man.

MORNING WORK.

Perhaps, on the whole, moderately early rising is now a commoner practice in cities than it was forty years ago. It seems strange that the habit of lying in bed hours after the sun is up should ever have obtained a hold on the multitude of brain-workers, as undoubtedly it had in times past. Hour for hour, the intellectual work done in the early morning, when the atmosphere is as yet unpoisoned by the breath of myriads of actively moving creatures, must be, and, as a matter of experience, is, incomparably better than that done at night. The habit of writing and reading late in the day and far into the night, "for the sake of quiet," is one of the most mischievous to which a man of mind can addict himself. When the body is jaded the spirit may seem to be at rest, and not so easily distracted by the surroundings which we think less obtrusive than in the day; but this seeming is a snare. When the body is weary, the brain, which is an integral part of the body, and the mind, which is simply brain function, are weary too. If we persist in working one part of the system because some other part is too tired to trouble us, that cannot be wise management of self. The feeling of tranquillity which comes over the busy and active man about 10:30 or 11 o'clock ought not to be regarded as an incentive to work. It is, in fact, the effect of a lowering of vitality consequent on the exhaustion of the physical sense. Nature wants and calls for physiological rest.

Instead of complying with her reasonable demand, the night-worker hails the "feeling" of mental acquiescence, mistakes it for clearness and acuteness, and whips the jaded organism with the will until it goes on working. What is the result? Immediately, the accomplishment of a task fairly well, but not half so well as if it had been performed with the vigour of a refreshed brain working in health from proper sleep. Remotely, or later on, comes the penalty to be paid for unnatural exertion—that is, energy wrung from exhausted or weary nerve centres under pressure. This penalty takes the form of "nervousness," perhaps sleeplessness, almost certainly some loss or depreciation of function in one or more of the great organs concerned in nutrition. To relieve these maladies —springing from this unsuspected cause—the brain-worker very likely has recourse to the use of stimulants, possibly alcoholic, or it may be simple tea or coffee. The sequel need not be followed. Night-work during student life and in after years is the fruitful cause of much unexplained, though by no means inexplicable, suffering for which it is difficult, if not impossible, to find a remedy. Surely morning is the time for work, when the whole body is rested, the brain relieved from its tension, and mind-power at its best.—*Lancet.*

FIRE PANIC IN A SCHOOL.

A fire broke out a short time ago in the German Catholic School of the Holy Redeemer, in New York, in which were assembled some five hundred girls and two hundred boys. The building was five stories high, the upper floors being approached by a narrow staircase. When the alarm was given, the scholars began to leave the building in an orderly manner, under the care of their teachers, who had previously drilled them with the special object of averting a panic in case of an outbreak of fire. Disorder was first produced by the inrush of parents and other friends with the object of rescuing the children. At the angle of the stairs a child fell, and others falling upon it, a blockade was at once produced. A panic then set in, and a fierce struggle for life ensued, which baffled all efforts to restrain it. The confusion was climaxed by the breaking of the balustrade. Many children fell into the space beneath, which was soon half filled with writhing bodies. Fifteen young girls who were at the bottom of this terrible heap were suffocated, whilst many others sustained fractured limbs and internal injuries. The school was situated among a dense population. After the panic was over, the scene witnessed outside the building was of the most distressing character. The parents of the dead and injured children were nearly frantic; and even the police, as well as the ordinary spectators, were moved by the grief displayed on the recognition of the little corpses as they were brought out of the building.

Promotion Examinations.

We are pleased to acknowledge the receipt of Promotion questions from several Inspectors. It is apparent that in many counties a fair effort is being put forth to secure a symmetrical classification of the pupils in the public schools. In this, the teachers should be most interested, as much of their comfort and progress in a new situation depends on the proper classification of their pupils. The general register should show the place of every pupil; if this is not kept as it should be, a new teacher may easily be imposed on, by children anxious to get into a higher class than their merit warrants. Strange to say, most teachers are averse to keeping their registers properly. They think it too much work, and consequently neglect an important and imperative part of their duty. Especially is the general register left without the necessary entries, thus entailing on teachers who change their situations needless trouble and anxiety. With registers well kept, there is a constant exhibit of the progress of every pupil in the school; besides, the information they should contain is of great value to the section for future reference. It is the Inspector's duty to initial those in whose promotion he concurs, but how can he do so when the names are not entered? Evidently, improvement in this matter should be brought about as speedily as possible. Perhaps discussion of registers at an association would help some to a fuller discharge of their duty. Severe measures are hardly necessary, when it is obvious a portion of the teacher's legal duty is to keep the registers in the form prescribed by the Education Department. The form now in use is consistent with a well-managed school, and there is no reason why all the blanks should not be accurately and promptly filled.

ADDITION AND SUBTRACTION.

CLASS I. TO II.

1. Which is the greater, the addends or the sum?
2. What is meant by carrying? How many would you carry from 109; 200; 712; 895; 7040?
3. Name the terms of subtraction. How would you prove a question in subtraction, by subtraction? How would you prove it by addition? Must the minuend be always greater than either the subtrahend or the difference? Tell which is the greater, the subtrahend or the difference.
4. Show as well as you can that carrying, or borrowing in subtraction, is the same as adding the same number to both minuend and subtrahend.
5. Find the sum of 10, 1040, 69, 8275, 491, 78, 309, 41, and the difference between 1000 and 101.
6. By subtraction, find how many times 789 can be taken from 4734.
7. The sum of five addends is 2373; four of them are 78, 489, 67, and 910; find the fifth. Tell in words how you would do this question.
8. How much must be added to 4090 to make the remainder after 70,980 is taken from 1,000,000?
9. From the sum of all the numbers ending in 2, between 3 and 100, take the sum of all the numbers ending in 1, between 7 and 98.
10. A boy has $2.00. He buys at 19 cents each as many pencils as he can; how many did he get? How many cents has he left?

ARITHMETIC.

CLASS II. TO III.

1. When can questions in addition be done by multiplication? Tell how 7896 times 439876 could be found by addition. What is meant by partial products?
2. Multiply 89768 by 7896. Do this question by multiplying first by 7, then 9, then 8, then 6. How would you prove your work is correct by division? How by subtraction?
3. The factors of a number are 7, 13, and 5; find the product of that number and 9047. Having the factors of a number, how would you find it?
4. If you forgot the product of 8 and 9, show how you could find it.
5. By what must one million be diminished that the remainder may exactly contain 19? By how much must it be increased that the sum may exactly contain 19?
6. Show by subtraction that 4823 contains 689 seven times. In this question, tell the divisor, the dividend, the quotient, and the the remainder.
7. Divide 7131986390 by a number, the factors of which are 13, 11 and 17. Find the correct remainder and tell how you found it. What was the unit in the first quotient? In the third?
8. State how multiplication can be proved by casting out the nines. Show by an example that this is not a safe test.
9. In a township there are 600 voters; if 151 do not vote at an election, find the greatest possible number of votes which each of two candidates may receive.
10. Simplify $146 \times 79 \times 34 \times 16 \div 73 \times 39\frac{1}{2} \times 17 \times 8$.

GRAMMAR.

CLASS IV. TO V.

1. Name the sexes. Name the genders. State how sex differs from gender. What is meant by common gender? Parse the word, "they," in the following: A boy, a girl, and a lamb were in the field, but they went out of it.
2. Give as many rules as you can for the use of the comma, period, question mark, quotation marks, and point of exclamation. Write sentences to illustrate the use of the rules you give.
3. What is meant by analysis? Analyze the following: "Well Jasper, you'll spend the night with us, won't you?" said the guide.
4. Which is the above, a direct or an indirect quotation? Give rules for changing from one to the other. Apply them to the sentence given.
5. Discuss the use of "his" in the sentence,—Neither the boy nor the girl had his supper.
6. "Away went Gilpin—*who but he?*
   His fame soon spread around:
   He carries weight! he rides a *race!*
   'Tis for a thousand pounds!"
   (*a*) Parse italicized words.
   (*b*) Change into prose.
   (*c*) Name the marks used in the extract.
   (*d*) Why an apostrophe in 'Tis? Why in John's slate.
7. Correct the following:
   I did'nt use to do it.
   He married a negro.
   It was bought at Amos the grocer's.
   Will I get my lesson.

GEOGRAPHY.

CLASS IV. TO V.

1. What boundaries of Ontario are indefinite? Why are they indefinite? Give the proposed methods of settlement.
2. By means of a table give the names of the cities of Ontario; the counties in which they are situated; the railroads passing through or into each.
3. Trace the course of the Pacific Railway through the provinces of Canada.
4. How does a county town differ from any other town? Name ten towns or villages that are not county towns. Tell the county in which each is to be found.
5. Why are north winds cold and south winds warm? Give the cause of wind. Explain the use of the trade winds.
6. Outline a map of Europe. On it show the coast-waters. The boundaries of the countries. The mountain ranges. The rivers. Print names of countries, mountains, and rivers.
7. When does the sun cross the equator? When is it farthest north? When farthest south? What is meant by the declination of the sun?
8. Where are the following in greatest abundance: Tea, Oranges, Gold, Lead, Lions, Negroes, Timber, Grain, Machinery, Intoxicating drinks?
9. From what do the rivers get their supply of water? Name the common forms of water and explain how each is produced.

HISTORY.

CLASS IV. TO V.

1. Name the dfferent invasions of Britain. How does an invasion differ from a rebellion? Sketch the rise and progress of any rebellion with which you are well acquainted.

2. What Queens have reigned on the British Throne? Give the date of their accession, and one important event in the reign of each.

3. Define the word "treason," as fully as you can. Name some persons put to death for this crime. Be careful to give the exact form of treason for which each suffered.

4. Give the composition of the British Parliament. When did a sovereign exercise the veto power? When in Canada was it last exercised? What is meant by this power?

5. Tell all you know of the origin of the two great political parties of England. Give some of the views held by each on the public questions of the time in which they lived.

6. Who is the present Premier of the British Parliament? With what difficult question is he grappling? What does he mean by saying "Centralization is the curse of Ireland."

7. Under the following heads, sketch the steps by which the American colonies became independent:

(a) Cause of dissatisfaction.
(b) Declaration and progress of war.
(c) Interference of other powers.
(d) Close of war.

NORTH YORK UNIFORM PROMOTION EXAMS.

READING.

CLASS II. TO JUNIOR III.

II. Book, page 115, to "queer stocking, said Mary."
Value 30 marks.

JUNIOR III. TO SENIOR III.

III. Book, p. 35, to "Stand by to lower away the boats," p. 36.
Value 30 marks.

SENIOR III. TO IV.

III. Book, page 119, to "Told in his own words."
Value 30 marks.

NOTE.—This paper is not to be seen by candidates. The selec, tions have been made to test *intelligence, fluency, pronunciation-time, &c.*

Should it be impossible to hear the reading except in the presence of the candidates of the same class, it is designed that one candidate shall begin where the one reading before left off, and the selection is chosen so that the closing limit of the first shall be the starting point ef the second, and so on.

SPELLING AND LITERATURE.

CLASS II. TO JUNIOR III.

1. Write carefully, correcting mistakes in the following:

(a) The window pain or the cubboard shelf.
(b) Remembring that our Father's at the healm.
(c) A journy from the medow across the mountains.
(d) That silly fellow liked mischif, and taught silverlocks.
(e) They knited some stockings for some poor neighbor's children.

2. Some words in the following list are incorrectly spelled; write them all correctly:

Acceeded, demured, pleasantly, sissors, plaged, suddently, seperating, courteseyed, parliment, loosened.

3. Write the following words, with their meanings:

Substance, sheltered, nestlings, tresses, hearth-rug, a gentleman, sentenced, pondered, meddlesome, perceived.

4. Change as far as you can the words, but not the meaning, of the following sentences:

And then some pretty hymn Ann sings.
A little boy hung down his head.
The remains of their dear parents were laid in the grave.
He met a face that was deadly pale.
Virtue alone stands fast.

5. What is a fable? What good lesson should you learn from the lessons:

"The Boy and the Nuts."
"Dirty Tim."
"The Beggar Man."

Write from memory the verse beginning "Little deeds of kindness."

Values:—Full marks 10 for each question.

JUNIOR III. TO SENIOR III.

1. Write in full, correcting where necessary, the following lines:

Her ratling shrowds all sheethed in ice.
A look of compassion and affebility that familiarised.
This ingeneous boy trained some partriges.
Its galant defense by a handfull of pioneres against the allid Indians of Ohio.
A lofty precipiece in front. In simphone austere.

2. Write all the following, correcting where necessary;

Slackning, herbage, enginering, hidious, amature, mischievous, discreter, lusious, appalling, perigrenations, untameable, vengance, asylum, viceous, veteranary, superciliously, schemes, plaintif, cyprus, innocent.

3. Correct where necessary, and define:

Maintenance, adjunct, Saskatchiwin, civelized, rustick, woodland, punctuality, conscience, bedewed, opiate.

4. Change the italicized words but not the meaning of the following:

The *maintenance* of the dam is a *matter of vital importance.*
The *opportunity* of *pursuing* a *liberal course of study.*
So *famed* for his *talent* in *nicely discerning.*
Look aloft, boy, aloft.
Too highly civilized for a *nomadic* life.

5. (2) Who wrote "The Discontented Pendulum," and what moral should we learn from it?

(2) What traits of character in "John Maynard" make him appear so noble? Who wrote that lesson?

(6) Write from memory the last two verses of the "Tyrolese Evening Hymn," commencing, "Yes! tuneful is the sound."

Values:—Full marks 10 for each question.

SENIOR III. TO IV. CLASS.

1. Write, with necessary corrections:

(4) Napolions magnifecent size and proportions, his inteligent head, white-tiped tail, made him as remarkible as his peerless namsake.
(3) The mercyless broom frequently knocked them down from the cornises and curtin rods, amid dericive shouts and incesant chaterings.
(3) When the coloney of Pensylvania was pressed with scarcety of provisions the indians cheerfully rendered asistance.

2. Spell correctly and define:

Trecherous, perilously, baize, catastrophy, sacrifised, commemorate, saucepan, auctionere, Febuary, bucaneers.

3. Introduce new words or phrases having the same meaning as those in italics in the following:

But lightly *he'll reck* if they let him *sleep on*
In the grave where *a Briton* has *laid* him.
Even this did not *diminish* his *generous anxiety.*
Some *heartless wretch had peeled* the bark.
The time had now *arrived* for the *termination* of *this strange contest.*

4. (4) Who was the "peerless namesake" spoken of in the first question on this paper? and tell what you know of him.

(4) What propensity of Jacko, the pet monkey, made him very useful about a house? and in what way? Explain how he got away and was driven back to his home one day.

(2) From what work is the lesson, "My Pet Monkey," an extract?

5. (4) Tell in a few words by what means John Adams, when a boy, was made willing to study as his father desired.

(6) Write from memory what you can of one of the following: "The Soldier's Dream," "Somebody's Darling," or "The Old Arm Chair."

Values:—Each question worth ten marks.

GRAMMAR AND COMPOSITION.

CLASS II. TO JUNIOR III.

1. Write three sentences of not less than six words each about the dog.

2. Point out the nouns in the following sentences:
John is a good boy.
The horse leaped over the fence.
Father said crying was no use.
3. Correct the following sentences:
These apples is sweet. That is Johns coat. He was drownded in the pond. He went to toronto. I done a problem in arithmetic.
4. Make complete sense of the following:
The horse is . told me how he
Henry is angry at . is a very useful exercise. to come to-morrow.
5. Describe the school-room in which you are writing.
Values:—Each question worth ten marks.

JUNIOR III. TO SENIOR III.

1. Give the part of speech of each word in the following: I once had many friends, but some of them are now dead.
2. Correct the following: I have two brother-in-laws living in England. You was very quiet this morning. Who did you see at the Gardens to-day? Did you ever see the Queen's of England crown? These molasses are too thick.
3. Write five simple sentences of not less than six words, and draw a line under the predicate of each.
4. Add subordinate clauses to the following, making complete complex sentences: James told me that . The question is how . This is the house where . He still lay where . He brought back the book which .
5. Give a brief account of your last pleasure trip.
Values:—Each question worth ten marks.

SENIOR III. TO IV.

1. In the following sentences, show the subject, the predicate, and the modifiers of each:—Never had there been so great an excitement in the town. Forth from the ranks rushed the gallant Henry.
2. Parse: He made his father angry. Tell me where he is.
3. Give the plural of chimney, soliloquy, staff, cherub, volcano: and the feminine of friar, lord, stag, bachelor, negro.
4. Improve the literary form of the following: A fox was passing through a vineyard, and he saw some fine bunches of grapes on one of the trees, and so he tried to reach one of them, but it was hanging very high, and he could not get it.
5. Combine the following groups of statements into a simple sentence: A fine lawn sloped away from the mansion. This lawn was studded with clumps of trees. These clumps were so dispersed as to break a soft fertile country into a variety of landscapes.
Values:—Each question worth ten marks.

GEOGRAPHY.

CLASS II. TO JUNIOR III.

1. Give the meaning of the following:—Geography, lake, river, island, sea, ocean, mountain, equator, pole, and zone.
2. Name the continents and oceans.
3. Name the principal villages and streams in your own township.
4. What is the shape of the earth? Why do we have day and night? Why is it warmer at the Equator than in the north or south Temperate Zones? What is meant by the Eastern Hemisphere? What by the Western Hemisphere?
5. What are the chief agricultural products of the County of York?
Values:—Full marks 10 for each question.

JUNIOR III. TO SENIOR III.

1. Define the following: Cape, lake, isthmus, peninsula, meridian, sound, river, valley, prairie, mountain.
2. Name the townships in the County of York, grouping them in their respective Ridings.
3. Name in order, beginning at the west, the provinces of the Dominion of Canada.
4. Name two large rivers in each of the continents of North America, South America, Europe, Asia, and Africa.
5. What are the chief products and industries of our own Province?
Values:—Full marks 10 for each question.

SENIOR III. TO IV. CLASS.

1. Define meridian, estuary, planet, promontory, watershed, ecliptic, empire, zone, strait, delta.
2. What and where are Montreal, Azov, Ceylon, Rhone, Himalaya.
3. Name the counties bordering on Lakes Huron and Erie.
4. Mention the various circumstances by which the climate of a country may be influenced.
5. Name the chief products and industries of the Dominion of Canada.
Values:—Full marks 10 for each question.

ARITHMETIC.

CLASS II. TO JUNIOR III.

1. (*a*) Write in words 1883, 51013, 2102054, XLIV, XXXIX, CXCIX.
(*b*) Write in Roman numerals 46, 77, 111.
(*c*) Write in figures one million, two hundred and forty-two thousand, four hundred and six.
2. (*a*) Add together, 7256, one thousand five hundred and sixty, MMCXLIV, 42549, and MDCLXXVII.
(*b*) Find the difference between 21764932 and 14825984, and from your result subtract 545265.
3. (*a*) Multiply 473219865 by 4793.
(*b*) " 2732145 by 28, employing factors.
4. Divide 271325466 by 9, and divide your quotient by 257.
5. A farmer sold 45 bushels of wheat @ 90c. per bush., and 60 bush. oats @ 42c. per bush., and with the money received bought cloth at 73c. per yd. How many yds. did he buy?
Values:—Full marks 10 for each question.

JUNIOR III. TO SENIOR III.

1. (*a*) Define: *a number, addends, minuend, multiplier, quotient.*
(*b*) By dividing a certain number by 38 I get for quotient 2960 and remainder 16. Find the number.
2. (*a*) *A* has $120: *B* has $53 more than *A*: *C* has $8 less than *A* and *B* together, and *D* as much as the other three. How much have they in all?
(*b*) A man divided $18775 equally among his five sons, and $6415 less than that amount equally among his six daughters. How much did each son receive more than each daughter?
3. Find the amount of the following bill:—379 yds. silk @ $1.75 per yd.; 728 yds. muslin @ 39c. per yd.; 625 yds. cotton @ 11c. per yd.; and 195 lbs. tea @ 74c. per lb.
4. (*a*) Give tables used in measuring length, time, liquids, and for weighing drugs, and precious metals.
5. (*a*) How many drams in 1 ton, 2 cwt., 3 qrs., 4 lbs., 5 oz.?
(*b*) Reduce 4729384 sq. feet to acres, roods, &c.
Valnes:—Each question worth ten marks.

SENIOR III. TO IV. CLASS.

1. Define *measure, multiple, G. C. M., fraction, terms of a fraction.*
2. *A* owned a farm of 240 acres, 3 roods, 4 per., 10 sq. yds. He sold to *B* 59 ac., 3 ro., 6 per., 18 yds., and divided the remainder equally among his three sons. How much did he give each?
3. Find the *G. C. M.* of 2151, 67545, and 437292.
4. Arrange in order of magnitude (greatest first) the following fractions: $\frac{2}{3}$ $\frac{3}{4}$ $\frac{14}{17}$ $\frac{15}{22}$ & $\frac{23}{31}$
5. In a cricket match one side of 11 men made a certain number of runs; one obtained $\frac{1}{6}$ of the whole number; each of two others $\frac{1}{8}$ of the whole, each of three others one-twelfth of the whole, and the remaining five 150 runs among them. Of these last, four scored altogether 14 times as many as the other. Find the whole number of runs, and the number scored by each man.
Values:—Each question worth ten marks.

Mr. W. E. Sheldon, Secretary National Educational Association, announces that the next Annual Meeting of the Association will be held at Saratoga Springs. The National Council will hold sessions at Congress Hall, July 5, 6, and 7. The General Meetings, and other Departments, will hold sessions July 9, 10, and 11. The American Institute will follow at Fabyan's, White Mountains, on the 11th, 12th, and 13th. Programmes in due time.

Practical Department.

SUGGESTIONS TO YOUNG TEACHERS.

1. Make weekly or bi-weekly inspection of all books held by the dupils, holding each responsible for the right use of the same. This will prevent much mutilation and destruction of books.

2. In the class-room, teachers should not confine the attention of the pupils exclusively to what is found in the books. "Books are but helps," or instruments; and while that which is contained in them should be judiciously used and thoroughly understood, yet, so far as time will permit, the teacher can, to advantage, introduce such matters as are not only valuable in themselves, but such as will tend to impress the subject of the lesson more firmly upon the mind.

3. Be judicious and sparing in awarding credit or discredit marks; to be lavish, would render them cheap, and comparatively valueless

4. Before reproving delinquents in recitation, first inquire whether or not they have studied, and if so, what effort has been made. Some pupils may devote much time and labor to the acquirement of their lessons, and yet in the class-room be weak in recitation; and to denounce such would tend to discourage rather than stimulate.

5. During a recitation, the attention of all should be engaged upon the lesson or subject under consideration.

6. When a pupil applies for assistance in any question, do not accomplish the whole yourself, neither send him away entirely unaided; but after he has studied the subject faithfully, present to him one or two of the leading principles involved, and then leave him to develop the matter himself. Too much aid is sometimes worse than too little.

7. Teachers should, before entering on their duties for the day, be thoroughly conversant with the subject of each lesson. A teacher, while conducting a recitation, should never be obliged to refer to the book or map for the purpose of ascertaining whether or not the pupil is correct in his answer. Besides displaying a weakness on the part of the teacher, there arises in the mind of the pupil the query—Why should I study what my teacher does not know?

The teacher should be first well acquainted with the true answer to every question, and the correct pronunciation of every word in the several lessons. It will be seen that many advantages attend this plan; the chief of which are—much time is saved, the teacher instructs with more facility and success, and the pupil, observing the familiarity of the teacher with the several subjects, feels for him a greater respect.

8. In hearing a lesson, give the pupil time to answer when it appears he has a correct idea, and merely hesitates to find words to express himself; but when it is evident that he is ignorant of the answer, waiting is but loss of time.

9. Be sure the pupils have gained ideas. Words, without ideas, clog the mind.

10. A teacher taking charge of a new class, should at first advance it beyond the farthest point it had previously attained in each study. In case the teacher finds the new class deficient in what has been passed over, he should not turn back until about two weeks have elapsed, when all necessary reviews may be made; because when a class passes under the control of another teacher, a sudden retrograde movement would produce discontent in the class. At the same time, the teacher should avoid allusions tending to disparage the course of his predecessor in the estimation of the class.

11. The hearing of lessons should not occupy more than one hour and a half daily; the remainder of the day being devoted to actual teaching, when the lessons for the following day may be explained by the teacher. In Grammar Schools, answering in concert should be abolished.

12. When practicable, teach by means of objects, or through the medium of the eye: in Geography, use globes, maps; in Astronomy, use orrery, globes, and diagrams; in Spelling, frequently require the pupils to write the words or sentences given.

13. If you have no drones in your school, talk at each recitation to the dullest in your class, and use all your ingenuity in endeavouring to make him comprehend. The others, then, will be sure to understand.

14. Make each exercise as attractive as possible. Think out your methods beforehand, and illustrate freely.

15. Cultivate self-control; never be led into confusion, and above all, be in earnest.

16. Be cheerful, and smile often. A teacher with a long face casts a gloom over everything, and eventually chills young minds and closes young hearts.

17. Use simple language when you explain lessons. Long words are thrown away in the school-room.

18. Thoroughly test each pupil on the lesson, and do not be afraid of repetition. Review every day, or much will be lost.

19. Do not try to teach too much; better teach a little and teach it well.

20. Endeavour to make your pupils understand the meaning of what they study. Probe the matter to the bottom, and get at the real knowledge of your scholars.

21. Cultivate the understanding, and do not appeal directly to the memory.

22. Lay the foundation of knowledge firmly and well.

23. Impart right principles, and lead your pupils to a higher level, to a nobler range of thought. Endeavour to accomplish all that skill, intelligence, and love can suggest.

What now you do, you know not,
But shall hereafter know,
When the seed which you are sowing.
To a whitened field shall grow.

'Tis a rich young soil you're tilling,
Then scatter the good seeds well;
Of the wealth of the golden harvest
Eternity will tell.

24. Teach your pupils to fight manfully in the warfare of good against evil, truth against error; and above all, let the eternal principles of right and wrong govern your own life, and form a part of your own character. If you do this, you will "sow beside all waters, and eventually bring home your sheaves rejoicing."—*E. V. DeGraff, in Virginia Educational Journal.*

THINGS STUDENTS SHOULD KNOW.

The following is the shortest and most accurate method of computing interest known, and is worth preserving. Multiply the principal by number of days, and divide—

If at 5 per cent., by 7,200.	If at 11 per cent., by 3,273.
If at 6 per cent., by 6,000.	If at 12 per cent., by 3,000.
If at 7 per cent., by 5,143.	If at 13 per cent., by 2,760.
If at 8 per cent., by 4,500.	If at 14 per cent., by 2,571.
If at 9 per cent., by 4,000.	If at 15 per cent., by 2,400.
If at 10 per cent., by 3,600.	If at 16 per cent., by 2,250.

THE RECITATION.*

In the olden time, the skill of the school-master was measured by his ability to keep order, even if he kept it by striking terror into the minds of his pupils; and even now many school-officers suppose that if a teacher has good order, he is a good teacher. This is not necessarily the case. Many teachers, without either learning or ability have good order. The test of the modern teacher, or rather the modern test of the teacher, is his skill in arousing and developing thought and imparting knowledge. This is chiefly done by the recitation. The recitation is the one test of the teacher. If he does not understand its purposes and cannot guide it to the accomplishment of these purposes, he fails professionally no matter whatever else he succeeds in.

The objects of the recitation are:

1. To test the preparation of the pupil.
2. To train the pupil to correct expression of thought.
3. To fix the useful information contained in the lesson.
4. To elaborate and add to the text of the lesson.

Let us glance at each of these topics, for we do not intend to enlarge on any one of them.

1. *To test the pupil's preparation.*

This is named first, because it naturally comes first in the recitation. The lesson is assigned as a task to be learned, to be mastered. The pupil should understand that he will be held responsible for the lesson, and he will be severely tested upon it *before* any help is offered by the teacher. This test will determine largely the kind of preparation the pupil will make. If the test is easy, general and scattering, so will be the preparation. But if the questions are penetrating and the test searching, the pupil will acquire the habit of accurate and thorough preparation.

2. *To cultivate in pupils correct expression.*

One would suppose, by the way some teachers talk during recitation, that the object of it is to train *teachers* in the art of correct expression. Whoever recites has the benefit of the recitation. If the teacher recites he has the benefit of it; if the pupil recites he has the benefit of it. If the teacher is intelligent and well prepared, this method is entertaining to the class, but of comparatively small profit to them. The pupils like it, for it does away with the necessity of their preparation. During the recitation the teacher's words should be few and right to the point. But in case pupils can't say anything worth mentioning about the lesson, who is to break the silence? If the class fail for want of ability, the teacher must, of course, proceed to help them to get the lesson ready for another recitation, when *they* will be expected to recite.

3. *To fix the information contained in the lesson.*

To do this it is necessary to repeat and reiterate. There is no easy path to it. The laws of association are to be remembered and applied, the understanding is to be reached, but we can't do without the drudgery of repetition. Some educators say, "Reach the understanding, and the memory will take care of itself." I don't believe it. How do we learn the multiplication table? I would advise teachers to revise *every* lesson before beginning the advance, and review the advance lesson too. By reviewing the advance lesson I mean to have the same topic discussed, or the same question answered by different pupils, or more than once by the same pupil during a recitation.

4. *To elaborate and add to the lesson.*

This is the entertaining part to the pupil, and to the teacher too if he have a point to make, or an apt illustration, or a little *new* information to impart. But this can seldom be done without previous preparation by the teacher. It can't be done at every recitation by the very best of teachers, but it might be more frequently done. A good deal of time is wasted by desultory explanations, class-room platitudes, worn-out illustrations, etc. Here is where the teacher's industry, skill, and ingenuity can be turned to good account for himself and his school.

A very common kind of recitation is that styled by Baldwin "The Drifting Method of Recitation." This is the method that takes its own course. Anybody can conduct it. It conducts itself. It begins anywhere, drifts everywhere, and ends nowhere. The teacher, like a rudderless vessel, is driven this way and that way by every passing whim or fancy suggested. It is an easy way, so easy that the teacher, though asleep, need not err therein. May their tribe decrease.

No one method is to be adhered to for young pupils. The best method for grammar schools and high schools is the topical method, interspersed with questions and answers. But there should be some written recitations too. A good method for recitation is the following:

1. Review of preceding lesson.
2. Recitation of advance lesson.
3. Addition of new matter by the teacher.
4. Recapitulation of advance lesson.

Thus far and no farther can we go in advice. As to *how* to review the preceding lesson, to recite the advance lesson, etc., that must be left to the judgment and resources of the teacher. He can do it well without some spscial preparation, but he must be allowed to put himself into this part of the work, and if he fails to do it successfully he must fail. The conclusion of the whole matter is, therefore, that successful teaching depends more on the man or woman than the method.

* By W. L. Ballantine, Mahanoy City, Pa., in New York *School Journal.*

WHAT SHOULD PUPILS KNOW?

A committee of the Board of Education of the city of Philadelphia has been visiting the schools of different western cities and determing the quality of the instruction given in them by applying a test to the fourth-year grade. The test required of each pupil is that he should write in proper form upon a page of letter paper a letter in which he should relate his experiences on the way to school, or something of a like familiar character. The relative efficience of the instruction given in the schools of the different cities is to be determined, in the minds of this committee, by the ratio of correct papers prepared. They selected the fourth-year grade for the reason that nearly one-half of those children who enter the public schools withdraw from them at this stage or before. By the test applied they assume that it can be approximately determined how much of real preparation for actual life the schools have led these children to make.

What could be discovered by this test?

1. The pupil's ability to spell, to construct sentences, to write, and to punctuate. This is the formal side of composition.

2. The character of the pupil's vocabulary; which would indicate the degree of culture in the use of language which the home and the school had furnished.

3. The pupil's habits of observation. The paper will show whether he has formed the habit of sharp and discriminating observation, or has not yet learned to see what his eye rests upon.

4. The order or method of the pupil's thinking will be shown. Do his ideas follow each other in obedience to law, or do they come without order or method?

5. The ability of the pupil to select out of the flood of things that are present to the senses those that are important to be known.

6. The power of self-control will be manifest by the readiness with which the pupil can concentrate his energies upon the task assigned, and the persistence with which he holds his mind to its accomplishment.

7. Indirectly, the paper will show how well the pupil can read. His vocabulary, orthography, the construction of his sentences, the capitalization and punctuation, will be indicative of the intelligence with which he can read and has read the printed page. It will not show much as to his knowledge of arithmetical processes or of geography, but from the paper, and a glance at the programme school work, a good guess can be made of his attainments in these studies.

We believe that a discriminating observer can make the discoveries suggested in the foregoing statements from these papers, provided the pupil has had sufficient practice in this kind of exercise to make it a familiar and easy method by which to express his thoughts. Pupils who have had no practice in composition and letter-writing would be so embarrassed by the novelty of the mode of expression and ignorance of what we have called the formal side of composition that they could do nothing.

What shall be said of the propriety of applying the above test to pupils ranging from nine to ten years of age? There are two phases of the question which deserve consideration:—

(1.) Is this test a fitting test of *knowledge*? In other words, is that knowledge which this test implies the knowledge which the child most needs if he is to withdraw from school at this age?

(2.) Is this test a proper one to determine whether the mental training that the child has received is what he should receive during the first four years of his school life?

The questions ask for different things, and yet it may be true that the answer of one will determine the answer of the other. Let us try to answer the second question.

During the first eight or ten years the child must be employed in obtaining a knowledge of facts. It is the age of the acquisition of new ideas and forms. It is the time for storing the mind with material for future elaboration. These things acquired must be named; hence the importance of language. These things with their names must be repeated many times and in varied relations in order that they may be familiarly known. The child is only able to see the outside of things—the skin of them. He is unable to have a knowledge of the full contents of anything that he may learn. Words are, to him, only a small part of what they come to mean later in life, but they stand for something, and this something is a part of what they are subsequently found to contain. The entire energy of the mind is expended in *acquisition* of *new ideas*, in *memory*, and in *imagination*. There are comparatively few of those acquisitions made that result from the higher processes of *thought*. The child is constantly taking in and storing up in the mind the germs of ideas, as it were, which future thought is to develop. He can know nothing completely, but he should have a ready knowledge of many things, so far as he is able to know them. These things should be of those things which he will probably spend his future life in elaborating. Ready knowledge of these implies familiarity with the words which express them. This involves not only the power to talk, but to read and to write; that is, the spoken form of the word and also the printed and written form, and the proper arrangement of these in sentences. It would be an excellent test of the pupil's familiarity with ideas and their names to call upon him to write down in connected form his ideas in any one of the familiar fields in which his mind had been wont to work. This would be a specially good test provided the pupil had not been accustomed to write down his ideas in that field.

It is our conviction that few pupils in our public schools, of the grade named, can acquit themselves well by this test, but if their training had been what the preceding analysis suggests, it is quite evident that the test would make that training manifest.

SCHOOL RECESSES.

There is a growing disposition to question the wisdom of general recesses in schools.

The reasons advanced for abolishing this time-honored custom are the following:

1. The recess in the winter season is prolific of colds caught from exposure on the play-grounds, or from sitting in the school-room in a perspiration resulting from excessive exercise at recess.

2. Many of the cases of discipline—some say one-half of them—arise from trouble on the play-ground.

3. There is great danger of bodily injury from the reckless play of a large number of children.

4. The opportunities for acts of petty tyranny of the strong against the weak would be diminished by abolishing the recess.

5. The opportunities for moral contamination would, thereby, be reduced to a minimum.

These are undoubtedly objections that hold against the general recess.

What can be said for it?

1. It is an old custom, practised by the school for generations. What the wisdom of generations has sanctioned, especially in the sphere of conduct, may be supposed to have some good reason for its continued existence.

2. The school needs rest from study. The most perfect rest, except sleep, results from the transition from study to play. The last hour of both the morning and evening sessions will be much more fruitful of intellectual acquisitions if there is an intermission from labor for ten or fifteen minutes during the session, in which the pupils engage in free and active play. The more earnest, industrious, and orderly the school, the more necessity for this period of complete rest. Gymnastics is suggested. But this exercise is too much akin to the orderly procedure which is the characteristic of work to make it the best rest for the mind.

3. The public school is the training ground for active and independent life. There the children of all classes meet upon a plane of absolute equality, as to rights and privileges. In the school-room equality is maintained by the teacher. On the play-ground it is enforced by the public sentiment of the school. It is here that the strong learn to respect the weak, and the weak and timid to maintain his rights against the strong. It is here that children learn to estimate each other by the personal qualities each possesses, rather than by the poverty or riches of the family.

The common school is the nursery of republicanism, and the play-ground is only inferior to the class-room for implanting its principles.

4. Discipline, the training of the will, is the main purpose of the school. It is no valid objection to the general recess that it affords occasions for the exercise of this discipline.

5. If it were true that the opportunities for moral contamination were increased by the public recess, it would be good reason for abolishing it. But it seems to us that this is not the truth. Immorality does not seek to display itself in the sunlight and to the public gaze. We mean those grosser forms of immorality into which children may be early led. It is only the secret and hidden places that are favorable to this. The abolishment of the public recess will remove one of the strongest safeguards to morality.

The language of the play-ground is far from being all that is desired. Slang, obscenity, and profanity are not uncommon. But these are much less frequent on the play-ground of a well-governed school than on the street. Children can only be kept from danger of contamination of this sort by isolating them. Whether it is not better for the child to early meet these influences and be taught by teacher and parent to resist them is the question. Those who would keep their children from them must keep their children from the public school, even if the general recess shall be abolished.—*Indiana School Journal.*

DIRECTIONS IN USING LANGUAGE LESSONS.

Facility of language, and the ability to think "on one's feet," are acquired by practice.

Daily exercises should be given in speaking and writing. The reading-lessons, pictures, stories, current events, etc., will furnish the themes for conversation, and constitute the basis for composition.

Encourage the pupils to think independently, and to speak and write with freedom and accuracy.

When compositions are finished, select one of the most faulty and write it on the board, and have the pupils correct it in every particular.

Principles learned should be carefully applied in kindly criticism and correction.

The terms *noun, adjective,* and *adverb* have been used for convenience, and not for the purpose of definition and minute grammatical classification. The children will soon become familiar with them, and use them just as they use hundreds of other class-words properly without being able to give their definition.

Use Readers to cultivate *language* and *written expression.* The oral statement of information obtained from the pictured reading-lessons makes a valuable language-lesson.

The value of pictures as a means of cultivating *thought* and *expression* in children is not fully appreciated. They awaken interest, and convey ideas which the minds of young people cannot grasp from simple print.

Suitable ones may be found in *St. Nicholas, Wide Awake, Little Ones at Home,* Harpers' illustrated journals, and others.

Place the picture selected before the class, that they may look at it closely; by easy questions lead them to express their simple ideas; then ask them to make written statements, or a short story, about it.

Have pupils write at least five connected statements upon subjects furnished by the teacher; as, short interesting stories and events of the day *with which they are familiar.*

Have them copy and write from dictation portions of reading-lessons and stanzas of poetry for formal correctness.

Allow them to exchange work for mutual criticism and correction. "As much as possible should be done *by* the pupils, and little or nothing *for* them."

LESSONS IN PHYSICS.

An experiment is a trial; we note the result. This is the only way we learn about matter.

1. I have a stone in my hand; it does not fall. Why? Note the experiment—the holdings, the result, its not falling.

2. I loose my fingers and it falls. Why? Note the experiment—the unclasping, the result, the descent.

3. The same trial is made with ten things, pen, pencil, book, etc. The pupils are now to state the experiment in a *general* way and the result in a general way.

4. Over the surface of the water in a tumbler a piece of lead is suspended; letting go it sinks. Why? What is the "experiment?"

The trial whether the water will hold up the lead. What is the 'result"? The lead sinks.

5. The same trial is made with ten things, a nail, a pin, a shell, a stone, etc. Then the pupils are to state the experiment in a *general* way and the result in a *general* way.

6. A piece of wood is held over the surface of a tumbler; letting go, it floats. Why? What is the experiment? What is the result?

7. The same trial with ten things, and the pupils state the experiment and the result in *general* terms.—*New York School Journal*

SOME POINTS FOR YOUNG TEACHERS.

WINTER MANAGEMENT.

1. In winter, more than at any other time, is the health of the children dependent upon the thoughtful, even tender, discretion of the teacher.

2. If by any means a child's clothing becomes wet, it is your duty to have it dried, no matter what rules of order or discipline require. Sitting in wet stockings or wet skirts, or wet garments of any kind, is *dangerous* to the children.

3. Special care should be given to the outer wraps of the pupils that they are thoroughly warm and dry before putting them on.

4. To this end, during the last period of a cold, damp day, some time before dismissing, let two or three of the pupils bring in all the outer clothing from the cloak-rooms and dispose them near the stove, so that at the dismissal they may be warm and dry.

5. Female teachers will remember, but male teachers are likely o forget, that the younger pupils need personal attention both when they come in and when they go out of doors, if the weather is at all severe. This is especially true if they have come from or are going to a home which is quite distant, and over bad roads.

6. In spite of the hue and cry about ventilation, teachers must remember that it is vastly more important that the pupils are *warm* than that they have chemically pure air to breathe. If fresh air that is warm can be secured, good; but if fresh air that chills is admitted, it is not only dangerous, but oftentimes, as every observing person knows, certainly fatal. Better, a thousand times, warm and impure air than cold pure air to persons who are sitting.

7. This is not a protest against *pure* air, but against *cold* air.

8. Cold pure air may be admitted if the pupils are in motion.

9. Oftentimes, when the air is thought to be bad, it is good enough but too warm, and this is just the time when thoughtless teachers let down or raise windows, so that a flood of cold air pours upon the children, with more dangerous effects than if a drenching flood of cold water were emptied upon them.

10. The mistake was in permitting the room to get too warm.

11. To cool off the room, open the windows and engage the pupils in marching or gymnastics, or send them out into the air.

TEACHING ENGLISH COMPOSITION.

Among the improved methods which cultured teachers of our time have introduced into the schools, none is more to be commended than the various excellent devices for training the young in English composition. A few years ago, intelligent educators began to wake up to the fact that while our schools gave their pupils much useful instruction, they entirely failed to impart to them, in many instances, the most necessary and fundamental power, that of using their native tongue readily and well. Not only was needed training in English composition in many instances wholly ignored; but such instruction as was given in it was generally so poor and illogical, that it was scarcely better than no training at all.

We have dwelt in these columns on the fact that skill in language comes only by its continued use; that we learn language by using it. A theory of composition may be excellently elaborated; rules for the use of language may be formulated with the utmost accuracy; yet these cannot teach language, any more than a book of printed directions can teach one to swim or to dance.

We all know the old method of teaching composition. A list of time-worn subjects was given, all dealing more or less with abstractions or sentiment, as "Faith," "Hope," "The Reward of Virtue," etc.; or Nature was drawn upon for topics from which a touching moral lesson might be drawn, as "Spring," "The Seasons," "The

Falling Leaf," etc. It was not at all propable that one of the victims of these subjects had an idea on any one of the subjects offered; it was simply impossible that he should have an *original* idea concerning any of them. Such utterances of others on the subjects mentioned as came within reach were liberally cribbed from; those of the pupils who had a readiness in stringing together words without meaning were bribed to "do" the composition of their companions who lacked the gift; and so, at stated times, teacher and school worried through a stereotyped amount of composition writing. The pupils lerrned nothing from exercises of this kind; they gained a little facility in the use of stereotyped and stilted phrases,—this was all, no power whatever in the valued art of direct, iutelligent, and forcible expression.

The Egyptians of old, when they levied the tale of bricks upon the toiling Israelites, but gave them not the straw so necessary in the making thereof, were accounted most cruel taskmasters. Not less cruel is the teacher who demands of his pupils compositions without ideas. Give children ideas, and if they have any vocabulary at all, they will not be slow in manufacturing compositions. They should be taught that a composition is not merely a stilted effort at an essay, but any intelligent arrangement of knowledge on any subject. When the child understands this, he will no longer regard composition-writing as a hopeless bugbear.

The first thing necessary is, by some device, to give the child some ideas. * * * A picture is placed before the children, a few questions are asked to test their understanding of it; or, if they are inexperienced in writing, the teacher tells them a story about it, and then they are set to work to write a composition concerning the picture. Very young children will be found to do this work very well. showing that when writing compositions means telling what they know, it becomes a very simple matter.—*Western Educational Journal.*

Notes and News.

ONTARIO.

The average saiary paid to teachers in Prince Edward County is, males $370; females $265.

The Hon. Adam Crooks has left for England for four or five months with a view of securing rest.

The high school, Fergus, of which C. F. McGillivray, B.A., is head master, is doing well. The attendance averages 60 pupils.

A. D. Davidson, B.A., late head master Caledonia high school, was a short time since appointed to a similar position in Elora high school. He is ably assisted by Mrs. Kirkman.

We are glad to announce the convalescence of Mr. J. W. Narroway, the efficient principal of the central school, Belleville. He had been suffering from a severe attack of bronchitis.

W. O'Connor, M.A., late head master of Ohen Sound high school, has been appointed principal of the collegiate institute, Peterboro; (?) De la Matter, B.A., succeeds him at Owen Sound.

The cost of public school inspection has, during the past few years, made a wonderful increase. In 1871 the expenses were only $11,527, while in 1881 they amounted to $31,022.

The teachers of the high and public schools of Pembroke met in the high school building, the other evening, and organized a Local Teachers' Association for the purpose of self-improvement.

Mr. James Learn, formerly a deserving student of St. Thomas collegiate institute, and well known as a teacher in Dorchester, has been appointed head master of one of the London public schools.

Miss Alice Higgins, a graduate of Toronto normal school, has recently been appointed first assistant in the pnblic school, Brussels, of which Mr. J. Shaw is the efficient and highly respected head master.

The appointment of Mr. S. Roulston to the head mastership of Palmerston public schools is one that is giving much satisfaction. Mr. Roulston previously taught in Arkona, Lambton Co., where he was highly esteemed.

The Listowel high school Board have engaged a native German, Dr. Sommer, to give lessons to the pupils wishing to acquire the German language. There are 15 in the class at present, with the prospect of an increase.

In the Trenton high school, of which H. E. Kennedy, B.A., is head master, arrangements have been made to have a "Local examination for women" held next June. A committee of resident influential ladies and gentlemen, has the matter in hand.

We do not hesitate to say that the March number of the CANADA SCHOO JOURNAL just to hand is the most interesting nnmber yet issued. This single number is worth to any teacher the annual subscription price of the JOURNAL.—*Canadian Statesman.*

At the meeting of the school board, Whitby, recently held, Mr. Henderson's salary, as teacher in the collegiate institute, was increased to $650.00. Mr. Henderson is a faithful and diligent teacher, and we are pleased to note this recognition of his valuable services.

Mr. D. B. Hyatt, who was second master in Fergus public school, has recently been promoted to the principalship. He is well assisted by Mr. Webster, and both these gentlemen are zealous, well qualified teachers, whose desire is to bring their school up to the highest standard.

Brampton high school is, we learn, preparing for a public entertaining to come off shortly, the proceeds to be devoted to the establishment of a library of reference for the school. We wish, the head master, Alex. Murray, M.A., his staff, and the pupils, every success in their enterprise.

There are 25 teachers employed in the schools of Belleville. The highest salary paid to a teacher in that city is $1,000, and the lowest $250. The amount required for this year is $15,210, of which $3,857.85 is in government grants; the remaining $11,352.15 will have to be provided by the city.

A. H. Watson, B. A., has succeeded Mr. Kerr as assistant in Richmaud Hill high school. It is proposed to build a new public school—the present building is a disgrace to the town. The public school is under the management of F. F. McMahon, with two assistants. Average attendance, 160.

The public school estimates of Brockville for 1883 are $6,710—$4,995 of which is for the salaries of 15 teachers, 14 of whom are females. The estimates of the high school board are $2,300. It is proposed to form a special class in the high school for the study of botany, chemistry, and practical science.

There is an average attendance of 220 pupils in the public school, Aurora. For the past three years Mr. Armstrong has occupied the position of principal, and is reported as one of the most successful teachers in the county. The staff of teachers at present numbers four, and steps are being taken to secure the services of a fifth.

The public school, Lucknow, under the excellent management of Mr. H. S. McLean, head master, is in a very flourishing condition. The building is one of the best of its class that we have seen, and the system of instruction carried rn cannot fail to produce the best results. Mr. Midleton, second master, is doing good work in his department.

At the literary entertainment recently given in connection with the high school, Weston, the sum of about $100 was realized. This amount will be placed to the credit of the prize and scholarship fund. The chair on the occasion was filled by the energetic head master, G. Wallace, B.A., whom we congratulate on the live condition of his school.

We regret extremely to hear of the illness of Dr. J. Agnew, the respected and, up to the time of his sickness, indefatigable inspector of schools for Frontenac County. Although it is thought his chances of recovery are very meagre, yet we hope he may rally and be again able before long to carry on the arduous duties he has hitherto so efficiently performed.

The library in connection with the Mechanics' Institute at Elora ia, without doubt, second to none in any other country town in the Province. Certain works recently added have become the subject of a newspaper war between some of the local clergy and the late public school head master. As a consequence these books are now generally sought after by the townspeople.

Notwithstanding the severe weather, the attendance at the central school, Listowel, has been well maintained. The good, solid instruction imparted therein by Mr. B. Rothwell, principal, and his able staff of assistants, together with the perfect order and discipline which are prominent features, combine to make this school second to none of its class in the country.

Mr. W. A. Hoath, Principal of the Albert St. school, Oshawa, has been visiting Toronto with the view of becoming acquainted with the working of the public schools of the city. Mr. Hoath is one of those progressive teachers whose aim is the pinnacle of the profession, and, possessed as he is of many leading qualifications, we have no doubt but he will "make his mark" in a short time.

A new school building, we are told, is about to be erected in Lower Wingham. It is almost time to make a new departure there, as the building now in use is unsightly, comfortless, and inconvenient. The attention given by the head master, Mr. W. E. Groves, to his work has been productive of an increased daily attendance, and a desire on the part of the trustees to give him a better school-room.

Mr. Alex. Petrie, head master, Elora public school, is giving much satisfaction in his work. A visit to the school will amply repay the trouble, as one of the rooms is filled with cabinets containing stuffed birds and other animals, fossils, ores, shells, vegetable productions of Canada, specimens of Canadian manufacture, and curiosities of various kinds—in fact, the School Museum is a unique and interesting feature.

The High School in Richmond Hill continues to do good work; Mr. McBride, the energetic principal, although a young man, has proved himself a very successful teacher. A successful entertainment has recently been held in the High School with the laudable object of procuring funds to make an addition to the Reference Library attached to the school. A Reading Room has recently been established in connection with the same school.

Peter Armstrong, a pupil of the Markham high school, has been for some time in the habit of carrying a loaded pistol, which lately exploded whilst in his pants pocket. The bullet struck his left leg above the knee, inflicting a severe wound. This is the second accident of the kind that has lately befallen high school pupils, who appear ignorant of a statute against carrying concealed weapons which renders the offenders liable to a fine of $20.

Inspector Hughes, of the Toronto schools, in a recent visit to some leading American cities, collected full statistics as to teachers' salaries. We notice on comparison that the salaries paid to teachers there are considerably higher than those paid in Canadian cities. Another marked feature is the payment of the highest salaries to the teachers of the junior classes. It is also a recognized principle, in some of the places visited, that the most experienced and efficient teachers should be employed for the lowest grades in the school.—*Stratford Beacon.*

Mr. R. W. Bright has succeeded Mr. Bellamy as principal of the public schools, Drayton. Since his appointment he has had much up-hill work in reorganizing the school, and has been successful in bringing it into a good state of efficiency. The new school building is a credit to the trustees and an ornament to the village. It would be an advantage if another teacher were appointed, as the classes are rather crowded at present for beneficial instruction. Miss Sampson and Miss Coulter are the assistants, both of whom are highly spoken of.

Wingham public school is prospering under the able management and assiduous care of Mr. James Ferguson and his assistants. Mr. Ferguson, by his untiring energy and diligence, has raised this school to a prominent position in a county where there are many other excellent schools; and as a teacher and a gentleman he continues to enjoy the confidence of the trustees and the respect of his fellow-citizens. In his school work he has many original, practical plans, some of which we may have an opportunity of giving in the columns of the JOURNAL, in the early future.

Mr. E. A. Stevens, the Principal of the Renfrew County Model School during four and a half years, it will be remembered, some little time since obtained a rather lengthy leave of absence from the Board of Education, in order to study for a higher certificate than he held. Recently he tendered his resignation, which was accepted by the Board. Many of our readers will regret to learn this, as Mr. Stevens was intensely earnest, in fact enthusiastic, in his profession, and very successful in his practical school work; and, after school hours, exerted himself to procure decorations for the school-house, and gymnastic appliances about the play-grounds, so as to make the premises attractive to the pupils, which naturally made him popular with them. His friends, however, while regretting his unexpected departure, will be pleased to learn that he has resigned his position here only to accept the first assistant mastership of the Wellesley Public School, Toronto, the largest public school in Canada, at a salary of $750, with a promise of a rise shortly.—*Renfrew Mercury.*

There are twenty-four model school pupils in Port Hope. A contemporary states that the town is indirectly benefited $1,050, and directly—through fees, Government grant and Counties' Council grant—$470. Mr. Goggin receives a salary of $100, as model school teacher, thus giving the town a gain of $370 in cash, and through books and board, $1,050.—*Times.*

From the report of the Inspector on the Kingston public schools for February, we learn that the average daily attendance was 1,351—833 boys and 837 girls; that the daily average time required for home lessons was fifty-five minutes, and that all teachers are reported as having complied with the recent resolution of the board compelling them to accompany their pupils to the play-ground.

The February number of the CANADA SCHOOL JOURNAL is, as usual, overflowing with information for the educationist. The Dominion intermediate examination papers will be found useful to teachers of high schools. Of course in this, as in all similar journals, as the contributions are from dozens of correspondents, many grotesque views and inconsistencies occur, but to the teacher who knows how to use it, we know of no better investment than subscribing for it—*Kingston Daily News.*

The salary of Mr. Dickson, Head Master of the High School, Newmarket, has been increased every year for the past three years. Mr. Dickson is a hard-working and painstaking teacher, and well deserves this appreciation of his services. That terrible scourge—Diphtheria—has latterly been very prevalent in the town, nearly compelling the closing of the High School; fifteen pupils have been laid aside, two dying from its effects. Some families in the town have been bereft of as many as three or four children.

The High School Board in Newmarket had unwisely adopted the plan of fixing the yearly fee as high as $13. This has, however, been recently reduced to $10. As a result, a surplus of $1,000 has been accumulated over working expenses; but we fear this acquisition of wealth is a disadvantage to the school, by keeping the average attendance at low water mark, while neighboring schools admit pupils free. Mr. Rannie still has charge of the Newmarket Model School, and evidently with great satisfaction to all concerned, as his salary has been increased by the Board at the last re-engagement. For the special accommodation of the teachers in training at the Model School a new room has been built.

MANITOBA.

The University examinations commence on the second Tuesday in May.

It is likely that a teachers' association will shortly be formed at Portage la Prairie.

In many parts of the Province there is unusual activity in organizing school districts and establishing schools.

At the last meeting of the Council of the University of Manitoba it was decided that for the present Bachelors of Arts, of at least three years standing be granted the degree of Master of Arts.

The Winnipeg school trustees have decided to advertise for tenders for the erection of a school-house at Fort Rouge, ward No. 1. on the plan of the Argyle and Dufferin schools, and also for an addition of two rooms to the Euclid Street school.

Mr. Robert Machray who went to the University of Cambridge after having obtained, in 1879, the Governor General's silver medal in the previous examination of the University of Manitoba, has recently graduated as B.A., taking second-class theological honors. He would in all probability have taken first-class honors, but after the first four papers he was seized with acute neuralgia, and though he struggled on through the next seven papers, he was at last confined to his room and was not able to take the last three papers. This illness has been a great disappointment, as in addition to destroying his chance of first-class honors, it prevented his going in for the University Hebrew prize, which he had hoped to get. During his studies at Cambridge he lost half a term from a very severe attack of neuralgia. Mr. Machray returned about a week ago. He will take the position of Assistant Professor of Ecclesiastical History in St. John's College. Mr. Machray is a nephew of the Bishop of Rupert's Land.

According to announcement, the regular meeting of the Manitoba Teachers' Association was on Friday afternoon held in the Central School, the president, Venerable Archdeacon Pinkham, in the chair. As the meeting was only a formal one for the transaction of routine business, no teachers were present except those of the city, about thirty in number. The minutes of the last meeting having been read and approved, Mr. Somerset, on behalf of the committee appointed at a previous meeting to draft a scheme

whereby local associations could be formed that could work in harmony with the Provincial Association, was called upon to report. He stated that he had postponed convening the committee, hoping that the members from outside would be present at the meeting; but as they had not filed an appearance, and as he had not time to call together the other members during the afternoon, he was obliged to submit a few suggestions of his own. They were as follows: "The Provincial Teachers' Association would recommend that the days hitherto set apart for the attendance of teachers at the Provincial Convention, be granted hereafter at the same periods and on the same terms to Local Associations. Any local Teachers' Associations may become affiliated with the Provincial Teachers' Association by sending annually before the first of July to the Secretary of the Provincial Association a list of its members and a fee at the rate of 10c per member. All the members of affiliated local Associations shall be members of the Provincial Association, and the President of each local Association shall be ex-officio a member of tne Executive Committee of the Provincial Association. In view of the meetings of local Associations being held at the periods hitherto occupied by the Provincial Conventions it is recommended that the constitution of the Provincial Association be altered so that its meetings may hereafter be held annually in August." These suggestions were adopted by the association. It was then moved by Mr. McIntyre, seconded by Mr. Greig and carried, that a committee, consisting of Messrs. Fawcett, Somerset, Byington, Blakely, Hunt, Eaton, the Principals of the Schools in Brandon, Portage la Prairie and Emerson, the President and the mover be appointed a committee to amend the constitution of this Association, and submit the same at an adjourned meeting to be held on the 23rd of August. On motion the meeting then adjourned till Thursday, 23rd of August.

NOVA SCOTIA.

The following gentlemen constitute the Committee on Education of the Legislative Assembly now in session: Hon. Provincial Secretary Church, Mr. Langley, Mr. Harrington, Mr. Robicheau, Mr. Hockin, Mr. Haley, Mr. Patterson.

The students of Dalhousie College have resolved by a large majority to petition the Faculty and Governors for an extension of the annual session. It is urged in support of this action that the present session is to short for the work required.

D. H. Smith, Esq., the retiring Inspector, carries with him the esteem of all brought into contact with him in his official relations. He was a faithful and impartial public officer, and it is to be regretted that his health did not prove adequate to the trying duties of the inspectoral position.

It is reported that Roderick McKay, Esq., B.A., formerly English Master at the Pictou Academy, and now pursuing a post-graduate course at his *Alma Mater*, (Queen's University, Ont.,) has been offered the position made vacant by Mr. McLellan's acceptance of the Inspectorship.

R. McLellan, Esq., for several years past instructor in the classical department of Pictou Academy has, on the recommendation of the Superintendent of Education, been appointed by the Council of Public Instruction, Inspector of schools for District No. 9, (Pictou and South Colchester). This is regarded as an excellent appointment. Mr. McLellan, who pursued several years of successful study at Dalhousie, holds a Provincial Grade A License, and has had a wide and eminently creditable experience as a teacher. As Classical Professor at Pictou, he contributed his full share to the success achieved by Pictou boys during the past few years in various fields of competition.

From the Report of the Superintendent of Education for 1882, we glean the following figures: Total number of schools during winter term, 1,820, summer term, 1,910; total number of teachers during winter term, 1,890, summer term, 1,975; total number ol pupils during winter term, 76,888, summer term, 81,196. The number of pupils in attendance during the winter term shows a small decrease in comparison with the preceding year; the other figures indicate a marked enlargement of educational operations. The teachers employed are classified as follows: Academic Class during winter term, 28, summer term, 28; First Class during winter term' 313, summer term, 272; Second Class during winter term, 790, summer term, 797; Third Class during winter term, 719, summer term, 849. The Report states that the year whose operations are recorded was one of exceptional educational activity. The subjects most fully discussed by the Superintendent of Education in the Report are the professional training of teachers, intermediate or Academic Education, and Compulsory Education.

It is understood to have been decided by the Executive Committee of the Provincial Education Association to hold the next ensuing annual session of that body in Halifax instead of Truro, where previous sessions have been held.

The towns of Pictou and Kentville have each met with a serious loss in the destruction of school buildings by fire. The edifice burned at Pictou was large and well furnished, accommodating several of the higher common school grades. That at Kentville, embraced the entire school provision of the town, with the exception of a small building occupied for the primary grade. Though a neat and somewhat commodious structure, it had proved inadequate to the educational requirements of the place, and the trustees had decided upon a material enlargement. The ground is now clear for the erection of a building worthy of one of our most growing towns. Fortunately there was a reasonable sum insured on each of the properties destroyed, while the trustees in both towns have been able to make satisfactory arrangements for the temporary accommodation of the schools.

The *Acadia Athenæum* reports an unprecedentedly large attendance at the Ladies' Seminary, Wolfville. The same Journal announced that "Mr. W. F. Kempton and Mr. H. S. Freeman, formerly students of Dalhousie College, have joined the Sophomae Class (of Acadia College,) increasing its number to 15. We are further indebted to the *Athenæum* for the following interesting statistics regarding the graduates of Acadia College; "The total numder is two hundred and eleven, of whom twenty-nine have died. Of the whole number, eighty-seven, or forty-one per cent. engaged in the ministry. Thirty-six have entered the legal profession, of whom one has become a Judge of the Supreme Court, and another a County Court Judge. Twenty have studied medicine, and the same number have engaged in mercantile pursuits. Eleven are journalists, five hold positions in the Civil Service, while four are agriculturists, and one a civil engineer."

An important initial step has been taken towards the establishment of a Faculty of Law in connection with Dalhousie College. Through the continued generosity of Mr. Munro, the well-known benefactor of Dalhousie, an adequately endowed Chair of Law has been founded in that institution. Around this central chair, other professorships, or more probably *lectureships*, are designed to be grouped, making it a complete Faculty of Law. Several of the leading legal practitioners of Halifax, and at least one judge of the Supreme Court, have promised their hearty and practical co-operation. The Governors of Dalhousie have been singularly fortunate in their selection of a gentleman to inaugurate the enterprise of assuming charge of the newly-formed chair. Prof. R. C. Welden, A.M., Ph.D., has been duly nominated by Mr. Munro, and the nomination ratified by the Board of Governors. A graduate of Mt. Allison College, Sackville, N.B., of the Faculty of which institution he has for several years been one of the most distinguished members, Dr. Welden pursued a post-graduate course in philosophy and constitutional history and law at Yale, graduating there as Doctor of Philosophy with great distinction. Subsequent study of the same branches at Heideberg, under some of the most eminent juris-consults of Europe, has given to his attainments a wide range and a profound depth. In magnetism of manner, he is well qualified to make attractive a post which his learning and abilities cannot but adorn. The endowment provided by Mr. Munro yields an ncome of $2,000 per annum.

GEMS OF THOUGHT.

Parting with friends is temporary death,
As all death is. We see no more their faces,
Nor hear their voices, save in memory;
But messages of love give us assurance
That we are not forgotten. Who shall say
That from the world of spirits, comes no greeting,
No message of remembrance? It may be
The thoughts that visit us, we know not whence,
Sudden as inspiration, are the whispers
Of disemdodied spirits, speaking to us;
As friends who wait outside a prison wall,
Through the barred windows speak to those within.

[*Longfellow.*

Be to my faults a little blind,
And to my virtues wondrous kind.

Readings and Recitations.

THE LITTLE GRAVE.

"It's only a little grave," they said,
"Only just a child that's dead:"
And so they carelessly turned away
From the mound which the spade had made that day
Ah! they did not know how deep a shade
That little grave in one home had made.

True, the coffin was narrow and small,
One yard would have served for an ample pall;
And one man in his arms could have borne away
The rosewood and its freight of clay.
But what darling hopes were hid
Beneath that little coffin lid.

A weeping mother stood that day
With folded hands by that form of clay;
And painful, burning tears were hid
'Neath the drooding lash and aching lid;
And her lip, and cheek, and brow,
Were almost as white as her baby's now.

And then some things were but away,
The crimson frock, and the wrappings gay;
The little sock, and the half-worn shoe,
The cap with its plume and tassels blue;
And an empty crib stands with covers spread,
As white as the face of the sinless dead.

'Tis a little grave; but oh! what care!
What world-wide hopes are buried there!
And ye, perhaps, in coming years,
May see, like her through blinding tears,
How much of light, how much of joy,
Is buried up with an only boy!

NOBODY'S CHILD.

Only a newsboy under the light
Of the lamp-post plying his trade in the rain.
Men are too busy to stop to-night,
Hurrying home through the sleet and rain.
Never since dark a paper sold;
Where shall he sleep, or how be fed?
He thinks as he shivers there in the cold,
While happy children are safe in bed.

Is it strange if he turns about
With angry words, then comes to blows,
When his little neighbor, just sold out,
Tossing his pennies, past him goes?
"Stop!'—some one looks at him sweet and mild,
And the voice that speaks is a tender one:
"You should not strike such a little child,
And you should not use such words, my son."

Is it his anger or his fears
That have hushed his voice and stopped his arm?
"Don't tremble," these are the words he hears;
"Do you think that I would do you harm?"
"It isn't that," and the hand drops down;
"I wouldn't care for kicks and blows;
But nobody ever called me son,
Because I'm nobody's child, I s'pose."

O men! as ye careless pass along,
Remember the love that has cared for you,
And blush for the awful shame and wrong
Of a world where such a thing could be true.
Think what the child at your knee had been
If thus on life's lonely billows tossed;
And who shall bare the weight of the sin,
If one of these "little ones'" be lost?

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

WATERLOO.—The annual meeting of the Waterloo County Teachers Association convened in the Berlin Model School on February 7th. The attendance was very large, and a very pleasant and profitable day was spent in discussing such subjects as appertain principally to the work of the teacher. The meeting was called to order by the President, Mr. J. Suddaby, at nine o'clock, after which Mr. Baehr opened the session with prayer. The Treasurer read his report, which showed a balance on hand of $32.50. Upon motion of Mr. Weismiller, seconded by Mr. Herner, Messrs. Hagey and Hagedorn were appointed auditors. The Library Committee's report was then read. Moved by Mr. Pearce, seconded by Mr. Hagedorn, that the Secretary and Messrs. Martin and Moyer constitute the Library Committee for the current year. Carried. Moved by Mr. Herner, seconded by Mr. Hagey, that the same Legislation Committee be re-appointed. Carried. Mr. Baehr very practically and thoroughly dealt with the Inflection of the Adjective and Adverb, after which Messrs. Weismiller, Herner, Hagey, Brueckner, and Suddaby followed with some well-timed remarks. Mr. Carscadden, M.A., of the Galt Collegiate Institute, next addressed the Association on the subject of Practical Education. This he termed to be that sort of education that has a direct bearing upon one's profession in after life. Instead of the present school programme being too extensive, he maintained that while a few subjects might be left off, such subjects as Physiology, Bookkeeping, Chemistry, Physical Geography, and Physics should be added, and more attention paid to Composition. Mr. Knowles followed with some remarks, after which the thanks of the Association were tendered to Mr. Carscadden for his very able address. Moved by Mr. Wm. Linton, seconded by Mr. Hagey, that the Rev. Mr. Boyd take up the subject of "Religion in Schools" in the evening, Dr. McLellan being prevented from delivering his lecture on account of sickness. Messrs. Ballantyne, Baehr, Hagedorn, Pendergast, and Brueckner were appointed members of the Nominating Committee. The meeting then adjourned until 1.30. Upon re-assembling, the report of the Committee on Question Drawer was received upon motion of Mr. Ballantyne, seconded by Mr. Baehr. The Rev. Mr. Thompson, M.A., of Ayr, then explained the "Tonic Sol Fa" system of Music. Throughout his address, which extended over about two hours, his remarks were so apt and varied as to elicit repeated applause. He claims many advantages for the system over the present one, and maintains that by its adoption throughout the public schools in Canada, as in England, thousands would easily glide into the kingdom of Music who are at present prevented by the five-barred gate. After some remarks by Mr. Groh, the thanks of the Association were tendered to Mr. Thompson for his very excellent address. Mr. Laird then gave his views on Geography and how to teach it to junior classes. His method is very practical, and as he teaches altogether from nature it must certainly be very interesting and instructive to the class. His ideas, which were well received, were followed by remarks from Messrs. Knowles and Wm. Linton. Mr. Thomas Cowan, chairman of the Galt School Board, was then called upon and highly entertained the meeting for a considerable time. Mr. Isaac L. Bowman also addressed the meeting for a short time. The thanks of the Association were then presented to the trustees for their attendance, and to Messrs. Cowan and Bowman for their speeches. Mr. Pendergast then read an excellent essay on "The Teacher out of the School." He holds that the teacher will teach much better if he continually and regularly exercises his physical and mental faculties outside of the school-room, and in order to do that successfully he must have a well-arranged time-table and strictly adhere to it. Remarks were made by Messrs. Ballantyne and Herner. Mr. P. E. W. Moyer interested the Association by giving some of his experience while a teacher thirty years ago. The meeting then adjourned until 7.30 p.m. In the evening the Rev. Mr. Boyd delivered a lecture on "Religion in Schools." He maintained that the teacher inculcates more moral principles into the minds of his pupils by his own example than can be done by the study of any text-book intended for that purpose. And further, that such text-book should only be introduced for the study of the older and more advanced pupils. At the close of the lecture he received a hearty vote of thanks for his admirable address. *Second Day.*—After the adoption of the Auditors' Report the Committee on Ventilation read their report. Messrs. Pearce, Groh, Hagey, Pendergast, and Moyer followed with various suggestions, after which the report was received. Mr. Knowles then took up Agricultural Education, and the advice he gave on the best method of raising stock, fertilizing, tilling, and planting the soil, excited the most careful attention of all present. In his opinion half an hour per week should be devoted to teaching the subject in rural schools. A discussion followed in which Messrs. Pearce, Linton, and Groh took part. Mr. Donnenworth next read a carefully prepared essay on "Reviews." He maintains that school work should be reviewed on

each Friday, and not at the beginning of each lesson. Mr. Ruby, of the Hamburg School Board, was called upon to address the meeting. The following are the names of the officers appointed for the coming year:—President, J. E. Bryant, B.A., Galt Coll. Inst.; Vice-President, D. K. Erb; Sec.-Treas., Mr. Ballantyne; Managing Committee, Misses Cooey and Ovens, and Messrs. Petrie, Cull, and Weismiller; Delegates to Provincial Association, Messrs. Knowles and Wm. Linton. Votes of thanks having been tendered to the retiring officers and to the Berlin School Board for the use of the school-house, the meeting adjourned to meet in Galt on the first Friday and Saturday in October.

ALGOMA.—The winter session of the Algoma Teachers' Association was held in the hall, Manitowaning, on March 16th, 1883, and though the attendance was fair, considering the distance that teachers would have to come, yet it is to be regretted that some teachers exhibit so little interest in these meetings, which would amply repay the trouble and expense of attending them. The election of officers was first proceeded with, the following being the result:—President, Mr. G. F. Payne, Manitowaning; Vice-President, W. Forrest, Sheguiandah; Secretary-Treasurer, J. Hanna, Tehkummah; Librarian, T. Flesher, Hilly Grove; Managing Committee, G. F. Payne, E. I. I. Ferguson, J. Hanna, T. Flesher, and Miss Munro; Auditors, E. I. I. Ferguson and Miss Munro. The President gave a lengthy and very excellent address on school work and the present system of education, suggesting some very good points. On the whole the address was one well worthy of publication. The Auditors' report, showing a balance of cash in hand of $38.97, was read and adopted. The report of the librarian shows that the library is being appreciated by most of the teachers. A vote of thanks was tendered to the late president, Mr. H. Brown, for his untiring zeal and interest in the Association. On motion of Mr. Moore, seconded by Mr. Brown, it was resolved that $20 shall be expended in books for the library, consisting of twenty-two volumes, the works of a very choice selection of authors, and $5 in a book-case for library; Messrs. Ferguson and Brown to negotiate for the same. On motion of Mr. Ferguson, seconded by Mr. Brown, it was unanimously resolved that the thanks of this Association be tendered to the Department and Inspector for the grant of $50 for the year 1882. The Inspector is to be requested to fix the date of next meeting in July so that he may be able to attend. On motion of Mr. Flesher, seconded by Mr. Ferguson, Mr. Brown was requested to send a report of the meeting to the CANADA SCHOOL JOURNAL and *Manitoulin Expositor* for publication. The meeting adjourned at 5 p.m., the greatest fellow-sympathy and good-feeling having prevailed throughout.

WEST HURON.—The semi-annual meeting of the West Huron Teachers' Association was held in Exeter on Friday and Saturday, Feb. 16th and 17th, 1883. After routine business, the president, Mr. George Baird, Sr., read an able and interesting address in which he touched on the following points: "Benefits of Teachers' Associations," "Improvements in School-houses and School-teachers" during the last twenty or thirty years, "Duties of Teachers to do all that they can to put down Dishonesty at Teachers' Examinations," "The Bible as a Class-book in the School," and the "Superannuation Fund." A vote of thanks was tendered to Mr. Baird for his address. Mr. A. H. Aborn then read a well prepared essay on "The Reading Lesson," in which he advocated a more conversational style of teaching reading, and the encouragement of home reading by the scholars. This essay was well received and a spirited discussion took place on the subject. Miss A. Jenkins having read a short but valuable paper on the benefits of "Calisthenics in the schools," showed her plan of teaching the subject by putting several of the members of the Association through a number of calisthenic exercises. A discussion on the benefits of calisthenics in schools ensued. Mr. Wm. Henderson, after reading a paper on "A few points in Arithmetic," gave some practical examples of his methods of explaining said points. He held that more attention should be paid, in the junior classes, to the simple rules. A number of questions put by members of the Institute were satisfactorily answered by Mr. Henderson. In the evening a large public meeting was held in the C. M. Church, when the Rev. G. Webber delivered his very interesting lecture on "William Tyndall," the great reformer and translator of the Bible into English. This eloquent lecture was listened to with rapt attention by the audience, and at the close a hearty vote of thanks was tendered the reverend lecturer. On Saturday the Association re-assembled in the Public School at 9:30 a.m., and Mr. W. M. Leigh dealt with the difficulties of the subjunctive mood, and by his lucid explanations of some points regarding it, enabled the members to have a clearer knowledge of this very troublesome part of Grammar. A few remarks were made on this paper by the Inspector, and one or two others. Mr. J. R. Miller, I.P.S., then read an essay on "The Kindergarten," and how far the Kindergarten exercises can be taken up in our common schools; after which Miss A. Dickson sang a number of the Kindergarten songs, accompanying them with the appropriate movements. Frequent applause assured Miss Dickson that her efforts to give the members a better idea of the Kindergarten were appreciated. The subject was discussed by several of the members, all of whom were agreed as to the great benefit to be derived from the use of music in the schools. The Inspector explained some rather obscure points in the new programme, and answered several questions put to him by the teachers about it. A motion that a committee consisting of Messrs. A. H. Cressweller, Wm. Anderson, H. Huston, J. Grassick, Thos. Gregory, and S. S. Nash, be appointed to study up Herbert Spencer's "Education," and discuss the ideas contained in that work at the next meeting of the Institute, was put to the meeting and carried. The Association then adjourned to meet next in Goderich at the call of the Executive.

Official Department.

ENTRANCE EXAMINATION, JUNE 28, 1883.

THE SUBJECTS OF EXAMINATION ARE:

Spelling.—Fourth Reading Book to p. 246, and Spelling Book.

Dictation.

Writing.—Neatly and legibly.

Arithmetic.—Principles of Arabic and Roman Notation; Vulgar Fractions; Decimal Fractions; Simple Proportion, with reasons of rules; Elementary Percentage and Interest; Mental Arithmetic.

Grammar.—Principal Grammatical Forms and Definitions; Analysis of Simple Sentences (including Parsing).

Composition.—Simple and Complex Sentences, orally or in writing; Grammatical Changes of Construction; Short Narrative or Description; Familiar Letters.

Geography.—Maps of America, Europe, Asia, and Africa; Maps of Canada and Ontario.

Linear Drawing.—Outline of Maps; Common Objects on paper. A paper will be set on Drawing as given in Walter Smith's "Primary Manual."

History.—Candidates will be examined in the leading facts of English History. The questions set will not demand a minute knowledge of details, but will be strictly limited to the outlines of the subject.

Reading.—Candidates will be examined, as heretofore, in reading from the Fourth Reader, pp. 1–246; but they will, in addition, be expected to show that they understand the meaning of these reading lessons.

They will likewise be examined more minutely on the selections enumerated in the following list, and they will be required to reproduce the substance of one or more of them in their own language:—

(1) The Norwegian Colonies in Greenland.—*Scoresby.*
(2) The Founding of the North American Colonies.—*Pedley.*
(3) The Voyage of the "Golden Hind."—*British Enterprise.*
(4) The Discovery of America.—*Robertson.*
(5) The Death of Montcalm.—*Hawkins.*
(6) Jacques Cartier at Hochelaga.—*Hawkins.*
(7) Cortez in Mexico.—*Cassel's Paper.*
(8) The Buccaneers.—*The Sea.*
(9) The Earthquake of Caraccas.—*Humboldt.*
(10) The Conquest of Peru.—*Annals of Romantic Adventure.*
(11) The Conquest of Wales.—*White's Landmarks.*
(12) Hermann, the Deliverer of Germany.—*Jerrer.*
(13) The Burning of Moscow.—*Segur's Narrative.*
(14) The Battle of Thermopylæ.—*Raleigh.*
(15) The Destruction of Pompeii.—*Magazine of Art.*
(16) The Taking of Gibraltar.—*Overland Route.*

N.B.—(1) In valuing the answers in Geography, Grammar, and Composition, one mark is to be deducted for every mistake in Spelling.

(2) The maximum of marks for each subject, which must on no account be altered, is given in the following table:—

Reading	30	Geography	72
Writing	20	Composition	72
Dictation	22	History	72
Fourth Book and Spelling	72		
Grammar	100	Total	560
Arithmetic	100		

Minimum for pass, 280. One-third in each subject is also required, except Drawing, and one-half of the marks for the analysis (including parsing) questions. (See paragraph 9 (2), page 2.)

The paper on Drawing will be valued at 60 marks. While one-third in this subject is not exacted, credit will be given for the marks obtained in reckoning the total marks required for pass.

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He that swells in prosperity is sure to shrink in adversity.

To see what is right and not do it is want of courage.—*Confucius.*

Lack of preparation is the great fault in those who essay to be teachers.—*Professor Lukers.*

I live for those who love me,
Whose hearts are kind and true
For the heaven that smiles above me.
For the good that I can do.

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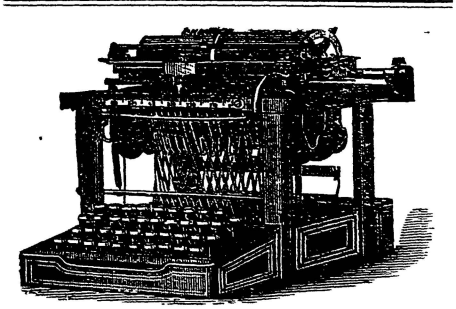

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VOL. VIII. TORONTO, MAY, 1883. No. 71.

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CANADA SCHOOL JOURNAL HAS RECEIVED

An Honorable Mention at Paris Exhibition, 1878.
Recommended by the Minister of Education for Ontario.
Recommended by the Council of Public Instruction, Quebec.
Recommended by Chief Superintendent of Education, New Brunswick.
Recommended by Chief Superintendent of Education, Nova Scotia.
Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

REPORT OF THE MINISTER OF EDUCATION, 1882.

The annual report of Minister Crooks comes to hand more than usually replete with important and interesting information. Under the first head of the report we have a summary of the proceedings of the Education Department for 1882, and it is satisfactory to note that the information comes down to date, and does not, like many reports of former years, convey statistics which have become musty and stale by lapse of time. The opinions and decisions of the Minister on a great variety of questions that have from time to time been submitted to him are given, and will be useful as precedents. In this part we have the course of study for public schools as revised a year ago. It is safe to predict that this programme will have to be re-issued at no distant date in order to supply several minor omissions, and when that is done it will be well to present a fuller statement of details under each subject as a guide to the younger and less experienced teachers. A short explanatory handbook similar to the "Manual of Instruction and Discipline" employed in the primary and grammar schools in the city of New York would be of immense service to our public schools, if the Minister could see his way clear to issue such a guide book to accompany the programme and enter into the particulars of the course to the end of the fourth class. A short clear outline of methods, limits, topics, and a precise statement of the standard of attainments to be aimed at in each grade, would have a very beneficial influence on both teachers and pupils, since it would place before them, with a distinctness impossible in a bare programme, the work to be accomplished and the way in which it could be attempted, with the greatest chance of success during the time allotted. Something of this kind has already been done in portions of the programme for high schools and for first class teachers.

Under this division of the report, we have extracts from the report of the public and the high school inspectors which deserve a careful perusal, as coming from men actually in the field, who know what our schools really are, who get their facts at first hand, and thus supply us with data for a clear conception of the state of education in the various districts.

From the statistical part of the report we glean some items which may profitably be compared with the figures from the English report which we give in another column. Total receipts for public school purposes, $3,259,238. Average cost per pupil in rural districts, $6.69; in cities, $8.12; in towns, $6.13; and for the whole province, $5.92; which is 23 cents less than in 1876. Average salary of male teachers in counties, $384; in towns, $562; in cities, $755. Average salary of female teachers in counties, $240; in towns, $221; in cities, $330; showing a total decrease in salaries for the province of $7,161. Total school population between 5 and 16—484,224; within school age and not attending, 29,143. Attendance at public schools, 476,268; at separate schools, 24,819; at high schools, 12,135. We have 5,278 public schools, 195 separate schools, and 104 high schools; and 86 per cent. of these are opened and closed with religious services. It is worth noticing that 81 per cent. of our public school pupils are in the third and lower classes, and 16 per cent. in the fourth class, so that our great want is trained teachers for the elementary classes, and our normal and model schools should govern themselves accordingly. The municipal grants to high schools have fallen off $21,819, while the fees from pupils have increased by $2,362, and the total amount of fees collected in secondary schools amounts to $30,891, from which we may infer that the lament of a few cranks over the expense of higher education is entirely out of place, and their fault-finding the result of morbid ignorance.

On the whole the results are highly satisfactory, but as we have only received the report just as we go to press, we shall be compelled to reserve our remarks on the county model schools, the normal schools, and the special report of Director McLellan for a future occasion.

REPORTS TO PARENTS.

It is a great mistake for any teacher to assume more than his own fair share of responsibility for the mental and moral progress of his pupils. Parents generally are only too glad to put upon the shoulders of teachers the burdens they themselves ought to bear. For instance, when a boy is habitually negligent of his work, inattentive or disorderly in his class, frequently late, &c., it is the duty of the teacher to inform the parents and thus secure their co-operation in checking the evil, instead of dealing with it single-handed. A very effective method of dealing with laziness, carelessness, inattention, tardiness, &c., is to send the pupil home to his parents requiring him within a reasonable time to return with a note from them showing that they are aware of the irregularity. Sometimes

indifferent parents will object to the trouble incurred, but this only goes to show that in the end they will exert their authority to assist the teacher rather than suffer the inconvenience of writing notes, signing reports of bad conduct, &c. Those who have not tried this plan little know how much moral power over their pupils they are leaving unused. Corporal punishment will perhaps always be necessary in rare cases, but as practised in some of the best schools in Canada and the United States, the plan of appealing to parental authority has the effect of reducing the application of this extreme measure within very small limits. Let every teacher carefully consider how much of the discipline fairly belongs to him, and how much properly falls to the share of parents. It would be unwise to send a child home for every trivial offence, but there are few school offences of which parents should be kept in ignorance. The certainty that his parents will know of his bad conduct acts as a powerful deterrent to the average boy In many cases it is best to insist on the parent's coming with his child and undertaking to secure proper conduct.

RECENT APPOINTMENTS.

The vacancy caused in Peterboro' Collegiate Institute, by the lamented illness of Mr. John Dixon, has been filled by the appointment of Mr. Wm. O'Connor, late of Owen Sound High School. Mr. O'Connor is a graduate of Queen's, Ireland, but has seen service in Canadian public and high schools, in Seaforth, London, Harriston, and Owen Sound. His energy has won uniform success, and is the best guarantee that Peterboro' will continue to advance under his management. During his residence here he has made many friends, who will be glad to hear of his promotion. We are gratified to see a thoroughly competent man placed in a responsible position.

As successor to Mr. Embree, in Strathroy High School, the board have secured T. O. Page, B.A. Mr. Page, like his predecessor, is a trained teacher, who served his apprenticeship in public school work, graduated from the Normal School in '70 with a first-class certificate, and took his degree at Toronto in '77. He has recently had successful experience at Albert College and Vankleek Hill High School. It is one sign of the times, and a good omen for sound education, to see thoroughly experienced men appointed to our best schools. The masters of our high schools are the teachers of our public school teachers; and it is useless to hope that a few months' study of methods at the normal schools will suffice to eradicate the errors of years. We want the best trained teachers that money can procure for high schools. Let the good work proceed

COMPULSORY EDUCATION.

We lately gave quotations showing that the compulsory clause of the English code is by no means a dead letter. It is time that our own compulsory clause should be put into effect by the establishment of industrial schools in all our large cities. Looked at merely as a commercial undertaking, or in any aspect, no better investment of public money can be suggested, as the following extract plainly shows:

The statistics of every country, where education is compulsory and universal, demonstrate that juvenile crime may be nearly, if not quite, exterminated by a rigorous enforcement of juvenile education. The Grand Duchy of Baden, by a rigorous enforcement of such a law for seven years, according to their carefully-prepared statistics, reduced crime in that Duchy 51 per cent., and pauperism 25 per cent.

Our Board of Education has not pretended to a rigorous enforcement of the compulsory education law, but they have given some enforcement to it, employing twelve agents of truancy to look after the truants in over 150,000 children. Their labors, imperfect as they have been, have had a most remarkable effect in reducing juvenile crime in this city.

For the five years immediately preceding the enactment of the compulsory education law, there were 6,105 arrests of juvenile delinquents in this city, being an average of 1,221 per year.

The total arrests of juvenile delinquents for the last five years, under the enforcement of this law, have been 4,341, or an average of 868 per year, and for the last year only 717. This, considering the larger population of the city now than then, is a decrease in juvenile crime of 36 per cent., and is an annual saving to the city in future criminal expenses of many times the entire cost of enforcing this law.

A single agent has, in the last year, by direct arrest of the Italian truants, and by his moral influence in inducing others of them to go to school without arrest, added 1,100 to the attendance of that class of children alone. The labors of this single agent have relieved the taxpayers of this city of more expense for pauperism and crime, springing from this class of our population, than the entire expense of the whole truancy department.—*Dexter A. Hawkins, in Observer.*

APPOINTMENT OF SUB-EXAMINERS.

We are pleased to learn that in appointing the sub-examiners for the July examinations, the Department has secured the services of as many experienced teachers as possible, and among these a number of county inspectors who have had long practice in reading papers at the county boards. The universities find it extremely difficult to get competent men to conduct their examinations, and the Department must find it still more difficult, since the great majority of those who are best qualified to do the work are directly or indirectly interested in the results, and therefore ineligible. Young and inexperienced men almost invariably prove too severe, and too ready to reject candidates without deliberate and careful judgment. In fact, a good examiner is rather rare even among scholars of distinguished ability, since he requires good judgment, which is a thing quite different from ripe scholarship. However, with the large representation of old and experienced men now secured, we may confidently expect that the papers will be carefully valued. It would be an excellent thing to carry rigidly into effect that part of the Minister's instructions to examiners which directs that every paper shall pass through the hands of at least two of the examiners, thus saving many appeals, by guarding more effectually against oversights and mistakes.

"In the course of a series of articles on scholastic hygiene, now being published in the *Gesundheit*, Professor Reclam advocates the arrangement, where practicable, of a skating-rink in connection with schools. The mental advantages derived from this exercise are, he asserts, more numerous than might generally be supposed, inasmuch as it involves rapidity of thought and presence of mind in keeping clear of collisions, thus partaking of the elements tending to form the character which are also claimed by German authorities for gymnastic exercises as carried out in their *Turnvereine*. Amongst the physical advantages of rinking he enumerates the more noble and graceful carriage of the body which is induced by the maintenance of equilibrium, and the greater uniformity which it establishes in the distribution of the blood through the various portions of the body, this process being, it is remarked, specially desirable during the interval which separates the morning's tasks from those of the afternoon. It is also asserted that roller-skating is an excellent remedy for the excessive flow of blood to the head, which so often manifests itself in weakly yet diligent pupils by bleeding of the nose. Dr. Reclam considers that pupils of ten years of age and upwards may be freely allowed to participate in this exercise."

The above extract, from *The School Guardian*, contains an idea worth considering. In this country the girls of most schools get very little out-door exercise during the winter months, beyond that obtained by walking to and returning from school. In our high schools they often carry a dry and indigestible lunch which aggravates the evil, and the consequence is that many of the best students among them are frequently on the sick list. Boys turn out for foot-ball, snow-shoeing, &c., but the girls are prisoners from December to March, or later. It seems to us that with a little preparation in the summer, every school ground might have a small out-door rink for the girls where no covered sheds have been provided for their accommodation. In summer the girls enjoy out-door games, and it is rather hard that they should be "wooded in," as Sitting Bull expressed it when confined in Fort Walsh, for so many months in winter.

This and the preceding issue of the JOURNAL contain the questions set for promotion in several counties, where the inspectors and teachers are, as they should be, desirous of securing a fair classification of the pupils in the public schools. To teachers, these papers must be valuable, as they show the work done in other schools, and give them new ideas on the formation of questions. Every experienced teacher often feels at a loss for such aid; his mind at times is not in a constructive mood—to him, especially, selections from other sources prove a boon. The young teacher, having little practice in the art of questioning, cannot fail to derive benefit from the experience of his associates in school-work. Pupils may be urged to additional effort by placing questions from other counties before them for solution. *On these grounds alone, the present number of the* JOURNAL *is well worth the cost for the entire year.*

While the necessity of questions for examination purposes is admitted, there is reason to fear sufficient stress is not laid on methods of answering. Frequently, the writing is exceedingly bad, neither care nor neatness being apparent on the answer papers. The pupil expects anything he gives in reply to a question should be of some value. His teacher, careless in training, favors the utmost leniency in making answers; thus the examiners, if strict, may find themselves at variance with current opinion. We believe writing is not well taught in the majority of schools; further, it receives little attention during the training of the teachers for professional certificates. This induces the idea it is a minor subject; besides, not a few think it a mark of scholarship to write badly. All teachers should be able to write tolerably well, and to answer questions neatly and logically on paper. The public schools should lay the foundation of a good system of movement and formation of letters, the high schools should develop it, and make their students ready and accurate in penmanship.

At a recent dinner, in New York, of the Alumni Association of Princeton College, Dr. Porter, president of Yale College, bore the following emphatic testimony to the dependence of all true university work on thorough-going preliminary education:

Dr. McCosh proposes very wisely to expand the under-graduate instruction into a school of philosophy, as I understand him, for graduates and under-graduates both desiring in this way to connect, so far as is practicable, philosophical instruction with college instruction, as the way shall open for this further development of such a branch or such a school of instruction and study. It seems to me this is a legitimate way for the colleges of America to expand into universities. At all events, I wish to give my testimony, as I feel bound to do on all occasions, that there can be no universities either in the capital or in the country which are not founded on a thorough-going preliminary education. There are no such universities in Germany. The united testimony from all the representatives of the leading universities of the leading educational interests in Germany, particularly in the Empire, as to this fact, is to this effect—that the university cannot stand except the gymnasial interest is sustained, and the most distinct expression has been given to alarm and fear lest a relaxation in the gymnasial instruction should sap and destroy the foundations of university culture. Neither in New York nor in Baltimore, nor in Cambridge, nor at Cornell, nor at Ann Arbor, can there be university instruction unless there are minds trained to the capacity to receive it, and unless young men are disciplined to the reception of what may be called lectures on the higher departments of knowledge. We rejoice that Columbia College has awakened to the possibility and the hope that it may become a great national university in New York. We hope it may. We hope also that the attention of the community may be called to the expression, in what may be called the proclamation or programme for its future operations, that the rural universities of England are passing into the shade in comparison with the influence of certain leading lectures in London. As though any London lectureships, or any organization of London lectureships, could compare with those mighty instruments of power which never were so strong, never were so well furnished, never so splendid in the variety of the equipments of the men who teach, never so wakeful in the ardor and eagerness of the men who hear, as the so-called rural universities of Oxford and Cambridge! The time may come, and we hope it may come, when the great university of New York, which is to be, shall shine forth in its glory; and when that time comes, we hope that the rural universities of Princeton and New Haven and Cambridge shall send fit men, with minds prepared and matured to receive the higher instruction that shall be communicated from these metropolitan chairs. In this we would rejoice, and we will endeavor to do our part to prepare men for these advanced opportunities, and for the fame which shall accrue to the universities which shall give them.

It was known here that for some months past Mr. James H. Stewart, who three years ago removed from this place to Winnipeg, had been suffering from ill-health; and when the sad tidings of his death reached here on Saturday his friends were in a measure prepared for the news. The Winnipeg *Free Press* gives the following particulars and a brief biography:—"Mr. James Haldane Stewart died at his residence on Jemima-st., Monday evening, after a lingering illness extending over some six months. Mr. Stewart came to this country three years ago. He was the first Inspector of our city schools, and at the time of his decease was Sec.-Treas. of the Protestant school board. He was born in Argyleshire, Scotland, and received a portion of his education at Carleton Place, Ont., finishing at McGill University, Montreal. Previous to his arrival in Manitoba he was English and Science Master at Perth, Ont. Almost ever since he came to Winnipeg he has been in delicate health, and finally fell a victim to that dread destroyer, consumption. He was thirty years of age, and leaves a wife and one child, who are residing in the city. Mr. Stewart, ever since his arrival here, has been closely identified with our educational system, and has made a very large number of friends, who deeply regret his untimely demise, and whose fullest sympathy is extended to the bereaved ones."
—*Perth Courier.*

Official Department.

JULY EXAMINATION OF PUBLIC SCHOOL TEACHERS, 1883.

TIME AND SUBJECTS OF EXAMINATION.

CLASS I. EXAMINATIONS.

Days and Hours.	Subjects.
Non-Professional Examination.	
Grade C.	
Monday, July 9.	
P.M. 2—3..	Composition.
3.5—5.5.	Geography.
Tuesday, July 10.	
A.M. 9—12..	Natu al Philosophy.
P.M. 2—5.	History.
Wednesd'y, July 11.	
A M. 9—12 ..	Arithmetic.
P.M. 2—4 30...	English Literature & Language.
Thursday, July 12.	
A.M. 9—12....	Euclid.
P.M. 2—5	Grammar.
Friday, July 13.	
A.M. 9—12. ..	Algebra.
P.M. 2—4.30 ..	Hydrostatics & Heat.
Saturday, July 14.	
A.M. 9—11.. .	Chemistry.
Professional Examination.	
Saturday, July 14.	
A.M. 11.5-12.30	Education, 1st Paper.
P.M. 2—4. ...	Education, 2nd Paper.
Monday, July 16.	Music. Drawing. Drill.
Grades A & B.	
Tuesday, July 7, & 3 following days.	

INTERMEDIATE, 3RD AND 2ND CLASS NON-PROFESSIONAL EXAMINATIONS

Days and Hours.	Subjects.
Tuesday, July 3	
A M. 9—9.15	Reading Regulations.
9.20-10 50	Geography.
10.55-11 25	Dictation.
11 30—12..	*Mental Arithmetic.
P M. 1.15-3.15.	English Literature.
3.20-4.50.	Chemistry.
Wednesday, July 4.	
A.M. 9—11	Arithmetic.
11.5—12.5.	Botany.
P.M. 1.15-3 15.	English Grammar.
3.20-4.50.	Latin Authors.
Thursday, July 5.	
A.M 9—11 .	Algebra.
11.5—12.5.	English Composition.
P.M. 1.15—3.15	Natural Philosophy.
3.20—4.50	Latin Prose and Grammar.
Friday, July 6.	
A.M. 9—11	Euclid.
11.5—12.5.	Music.
P.M. 1.15—3.15	History.
3.20—4.20.	Drawing.
Saturday, July 7.	
A.M. 9—11	French.
11.5—1 5	German.

Where there are no Candidates for Class III. for both French and German, either paper can be taken from 9—11.

* Mental Arithmetic is for 3rd and 2nd Class Candidates.

Mathematical Department.

ARITHMETIC.

1. A set of harness cost \$25, the buggy as much as the harness and 60% of the price of the horse, and the horse as much as the buggy and harness together. Find the price of the rig.

SOLUTION—Horse = buggy. + harness=(\$25 + $\frac{3}{5}$ horse) + \$25= $\frac{3}{5}$ horse+\$50; ∴ $\frac{2}{5}$ horse=\$50, &c.

2. Bought a lot of sheep at \$4 each; as many and 20 more @ \$6 each; sold the whole @ \$5$\frac{1}{2}$ and gained \$30; find the number bought.

SOLUTION—Had the two lots been equal, the average cost price would have been \$5. As it was the cost price was \$20 more than this average of \$5 each. ∴ the selling price was \$30+20=\$50 more than this average, *i.e.* \$$\frac{1}{2}$ on the average gave \$50; ∴ 100 sheep bought.

3. When wheat is worth \$1.20 per bush. 11 bushels of a mixture of wheat and oats are worth \$8.90, but if the proportions in the mixture were interchanged its value would be only \$8.04. Find the number of bushels of wheat in the mixture and the price of oats.

SOLUTION—Add the two mixtures and 11 bush. wheat + 11 bush. oats=\$16.94. ∴ 11 bush. oats=\$3.74. ∴ oats worth 34c. Subtract the mixtures and difference=\$.86=1 bush. wheat−1 bush. oats. ∴ 1st contains 6 bushels of wheat and 5 of oats.

4. *A* can chop 4 cords in 3 days, *B* can chop as much in 3 days as *A* in 4 days. How long will they take to chop a cord both working together?

SOLUTION—*A* cuts $\frac{4}{3}$ cord in 1 day. ∴ *B* cuts $\frac{16}{9}$ cords in 1 day, &c. *Ans.* $\frac{27}{56}$ day.

5. *A's* money is $\frac{3}{5}$ *B's*, and $\frac{1}{3}$ *A's* added to $\frac{1}{4}$ *B's* produces \$800 interest in 6 years at 5%. Find the sums.

SOLUTION—$\frac{3}{4}$ *A's* money gives \$800 in 6 years at 5%. *i.e.* $\frac{3}{4}$ *A's* $\times 6 \times \frac{1}{20}$=\$800. ∴ *A's*=\$3555$\frac{5}{9}$, and *B's* \$5925$\frac{25}{27}$.

6. A father leaves \$3000 to his three sons, aged respectively 15$\frac{1}{2}$, 17, and 19 years. The money is to be invested at 6% simple interest, and each son is to get the same sum when he comes of age at 21. Find each son's present share of the \$3000.

SOLUTION—Shares will be at interest 2, 4, 5$\frac{1}{2}$ years respectively.

Int. on \$1 in respective shares for given times $=\frac{12}{100}, \frac{24}{100}, \frac{33}{100}$ ∴ discount$=\frac{12}{112}, \frac{24}{124}, \frac{33}{133}$.

∴ Present worth of \$1 in each$=\frac{100}{112}, \frac{100}{124}, \frac{100}{133}$, which are the proportions of the present shares. ∴ $100\left(\frac{1}{112}+\frac{1}{124}+\frac{1}{133}\right)$=\$3000, &c.

Shares are \$1092.76, \$987.01, and \$920.22 respectively.

7. The interest on \$98 for 15 years is \$81, part of it being out at 5% and the rest @ 6%, simple interest. Find the sum lent at each rate.

SOLUTION—5% loan+6% loan=\$98,

also $\frac{3}{4}$(5% loan)+$\frac{9}{10}$(6% loan)=\$81.

Multiply 2nd pair of equals through by $\frac{4}{3}$, and we have

(5% loan)+$\frac{6}{5}$(6% loan)=\$108. Subtract the 1st pair of equals from this and $\frac{1}{5}$(6% loan)=10. ∴ 6% loan=\$50, and 5% loan=\$48.

8. A merchant marks his cloth at 3$\frac{7}{11}$% profit. After selling $\frac{3}{5}$ his stock at this rate he is forced by competition to reduce the price 2 cents a yard, and in the end gains only $\frac{11}{15}$ of what he had intended. Find the cost price per yard.

SOLUTION—3$\frac{7}{11}$%=$\frac{2}{55}$. ∴ \$1 cost is to produce \$$\frac{57}{55}$ sales.

∴ for every $\frac{3}{5}$ lb. bot. he realised $\frac{57}{55}\times\frac{3}{5}$=\$$\frac{171}{275}$ cost of 1 lb.,

and for every $\frac{2}{5}$ lb. bot. " $\frac{2}{5}\left(\frac{57}{55}-2\text{c.}\right)=\frac{114}{275}$ " $-\frac{4}{5}$c.

∴ for every 1 lb. bot. " $\frac{285}{275}$ " $-\frac{4}{5}$c.

actual gain on 1 lb. $=\frac{10}{275}$ cost of 1 lb. $-\frac{4}{5}$c. $=\frac{11}{15}$ of intended gain.

i.e. $\frac{2}{55}$ cost per lb. $-\frac{4}{5}$c. $=\frac{11}{15}$ of $\frac{2}{55}$ cost per lb.,

or $\frac{4}{15}$ of $\frac{2}{55}$ cost=$\frac{4}{5}$c. ∴ cost=82$\frac{1}{2}$cts. *Ans.*

9. *A* can do a piece of work in 18 days, *B* in 30 days, *C* in 33 days. How long must each work in turn alone so that the work may be completed in 25 days?

SOLUTION—*A*, *B*, and *C* do respectively $\frac{1}{18}, \frac{1}{30}, \frac{1}{33}$. Let 4950 shares=whole work; average=198 shares per day to be done. *A* does 77 shares *above*, *B* 33 *below*, and *C* 48 *below* the average each day. Now *A* must make up for the deficiency of the others. Hence as in alligation we must have some multiple of 77=the sum of some multiples of 33 and 48 (the algebraic expression for which would be the indeterminate equation $77x-33y-48z=0$). We may choose to take these multiples integers. *e.g.* *A* 63, *B* 35, *C* 77 days respectively, so that if the work lasted 175 days, *A* would do 63×77 shares *over* the average, and *B* and *C* together would do (35×33)+

$(77\times48)=(63\times77)$ *below* the average. Hence when the work lasts only 25 days, *i.e.* $\frac{1}{7}$ of 175 days, A must work $\frac{1}{7}$ of 63, B $\frac{1}{7}$ of 35, C $\frac{1}{7}$ of 77 days, or 9, 5, and 11 days respectively.

10. A building society lends \$1500 @ 5% per annum, compound interest, to be repaid in 10 equal annual instalments, principal and interest together. Find the yearly instalment.

SOLUTION—

Instalment $(1+1\cdot05+1.05^2+\&c.+1\cdot05^9)=1500(1\cdot05)^{10}$

$\therefore$ " $(12\cdot57666)$ $=1500\times1\cdot6288335$

Instalment $=\$194\cdot2569+$

N.B.—In calculating $1\cdot05^2$, $1\cdot05^3$, &c., the best way is to use logarithms. For those who do not understand logarithms, the binomial theorem will save much labor, thus—

$1\cdot05=1+\frac{5}{100}$; $1\cdot05^2=(1+\frac{5}{100})^2=1+\frac{10}{100}+\frac{25}{10000}$
$=1+\cdot1+\cdot0025$; $(1+\frac{5}{100})^3=1+3\cdot\frac{5}{100}+3\cdot\frac{25}{1000}+\frac{125}{1000000}$,
$=1+\cdot15+\cdot0075+\cdot000125$; &c., in $(1+\frac{5}{100})^7$, $(1+\frac{5}{100})^8$, &c.

We may neglect all terms of the expansion after the 4th or 5th, unless the sum involved is very large indeed. Thus the final addition will stand

1·0000000,
1·0500000,
1·1025,
1·157625, &c.

See McL. & K.'s EXAM. PAPERS (Introduction), and K. & S.'s ARITH. (App.)

FIRST CLASS TEACHERS—GRADE C.

JULY EXAMINATIONS, 1882.

ALGEBRA.

TIME—THREE HOURS.

1. Solve the equations

(1.) $\begin{cases} x^2-xy+x=9 \\ 4y^2-3xy-2y=-7. \end{cases}$

(2.) $x^3-2x^2y-3xy^2=10=x^2-3xy$.

(3.) Discuss the values of x, y, z, in the equations

$$a=\frac{x-y}{x+y},\ b=\frac{y-z}{y+z},\ c=\frac{z-x}{z+x}.$$

2. What value of x will make x^2-2x a minimum?

Apply your method to show that the square is the greatest rectangle that can be inscribed in a given circle.

3. In the solution of $ax^2+bx+c=0$, interpret the results when

(1.) $a=b=0$; (2). $b^2\lessgtr4ac$.

4. If α, β, be the roots of $x^2+px+q=0$, and α', β', those of $x^2+px+\frac{1}{9}(2p^2+q)=0$, then α, α', β', β, form an arithmetic series.

5. Determine the conditions that ax^4+bx^2+c and cx^4+bx^2+a may have a common divisor of the form x^2+px+q.

6. When is one quantity said to vary as another.

If $x\propto y\propto z$, show that constants k, l, m exist such that

$$l(x-ky)=m(y-lz)=k(z-mx).$$

7. The sum of n terms of a certain series is $\frac{1}{3}n(n+1)(n+2)$; show that the sum of the differences between the 1st and 2nd, 2nd and 3rd, ... $\overline{n-1}$th and nth terms is $(n-1)(n+2)$.

8. Find the sum to n terms of a Geometric series, having given the first term and common ratio.

If between each pair of the quantities x, x^2; x, x^3; x, x^4; .... n Geometric means be inserted, and r_1, r_2, ... be the common ratios,

then $\frac{r_2}{r_1}+\frac{r_3}{r_2}+\ldots+\frac{r_{n+1}}{r_n}=n.x^{\frac{1}{n+1}}$.

9. In forming the combination of n things r together, find for what value of r the number of combinations is greatest.

A committee of 8 is to be selected by taking a certain number (a) from a party of 13, and the remainder from a party of 8. What is the value of a that the selections may be made in the greatest number of ways; and how often will A of the first party and B of the second party find themselves in company?

10. Assuming the Binomial Theorem to hold for positive integral indices, show that it holds for positive fractional indices.

Verify

$$\frac{1}{\sqrt{3}}=\frac{1}{2}\left\{1+\frac{1}{2^3}+\frac{1.3}{\lfloor2}\frac{1}{2^6}+\frac{1.3.5}{\lfloor3}\frac{1}{2^9}+\ldots\right\}$$

By equating co-efficients of x^r in $(1+x)^n$ and $\left(1-\frac{x}{1+x}\right)^{-n}$, show that

$$\frac{n(n+1)\ldots(n+r-1)}{\lfloor r}-\frac{n(n+1)\ldots(n+r-2)}{\lfloor r-1}\cdot\frac{r-1}{1}+\frac{n(n+1)\ldots(n+r-3)}{\lfloor r-2}\cdot\frac{(r-2)(r-1)}{\lfloor2}+\ldots$$
$$=\frac{n(n-1\cdots(n-r+1)}{\lfloor r}.$$

SOLUTIONS.

1. (1.) Add the equations and we have—

$(x^2-4xy+4y^2)+(x-2y)-2=0$. *i.e.* $(x-2y)^2+(x-2y)-2=0$.

$\therefore$ $x-2y=-2$ or -1. $\therefore$ $y=\frac{1}{2}(x+2)$ or $\frac{1}{2}(x+1)$.

Substitute these values in 1st equation and we have—

$x=\pm\frac{1}{3}\sqrt{2}$ or $=\frac{1}{2}(-1\pm\sqrt{73})$, whence we get eight corresponding values for y.

(2.) Multiply 2nd by y and add, and $x^3-3x^2y=10(1-y)=10x$ from 2nd; $\therefore$ $y=1-x$. Substitute this in 2nd equation, and $4x^2-3x-10=0=(4x+5)(x-2)$; $x=-\frac{5}{4}$ or 2; whence $y=\frac{9}{4}$ or -1.

(3.) Adding and subtracting numerators and denominators in each equation, we have—

$$\frac{x}{y}=\frac{1+a}{1-a},\ \frac{y}{z}=\frac{1+b}{1-b},\ \frac{z}{x}=\frac{1+c}{1-c}.$$

Multiply up, and

$$\frac{1+a}{1-a}.\frac{1+b}{1-b}.\frac{1+c}{1-c}=1,\ i.e.\ a+b+c+abc=0,$$

Which is the equation of condition among the coeffs. of x, y, and z which must exist. (A.) If we put the equations in the form $a_1x+b_1y+c_1z=d_1$, &c., we have

$a_1=a-1$, $b_1=a+1$, $c_1=0$, $d_1=d_2=d_3=0$, $a_2=0$, $b_2=b-1$, $c_2=b+1$, $a_3=c+1$, $b_3=0$, $c_3=c-1$.

And $x=\dfrac{d_1(b_2c_3-b_3c_2)+d_2(b_3c_1-b_1c_3)+d_3(b_1c_2-b_2c_1)}{a_1(\quad\text{"}\quad)+a_2(\quad\text{"}\quad)+a_3(\quad\text{"}\quad)}$

i.e. $x=0\div\{(a-1)(b-1)(c-1)+(a+1)(b+1)(c+1)\}$
$=0\div1=0=y=z$, and the original equations vanish
$x=y=z=a=b=c=0$.

2. $x^2-2x=x(x-2)$, which vanishes for $x=2$, $=-1$ for $x=1$, and $=+3$ for $x=3$. *i.e.* passes from $-$ to $+$, as x passes from 1 to 3. $\therefore$ 2=minimum value, if we exclude $x=0$.

math dept 2

If r=radius, and x and y the half sides of rectangle, we have area$=xy$, which vanishes when $x=0$, or $y=0$, *i.e.* as angle between x and y passes from 0° to 90°, . max. occurs when angle=45°, *i.e.* when $x=y$, or when rectangle=square.

3. (1.) In $ax^2+bx+c=0$, write $\frac{1}{y}$ for x, then

$a+by+cy^2=0$, and if $a=b=0$, $cy^2=0$, $\therefore y=\pm0$, $x=\pm\infty$.

(2.) $x=\frac{1}{2}(-b\pm\sqrt{b^2-4ac})$, . values of x are real and different, real and equal, negative and impossible, according as $b^2\gtrless4ac$.

4. If α, α_1, β_1, and β are in $A.P.$, then $\alpha-\alpha_1=\beta_1-\beta$, *i.e.* we have to show that $\alpha+\beta=\alpha_1+\beta_1$. Now from given equations we have $\alpha+\beta=-p=\alpha_1+\beta_1$, hence the four quantities are in $A.P.$

5. The 2nd expression is derived by changing a into c and c into a, $\therefore$ if $a=c$ the expressions are identical, and if x^2+px+q divides one it will divide the other also. The same result is obtained if we divide each expression by x^2+px+q, and put each part of the remainders $=0$, : for we get from $p^2=-\frac{a}{b}=-\frac{b}{c}$ $\therefore$ $ac=b^2$, and

$q^2=-\frac{c}{a}=-\frac{a}{c}$ $\therefore$ $a=c$, whence $a=b=c$.

6. Book-work. Let $x=ay=bz$, $z=\frac{a}{b}.y$, Substitute these values in the given relation and $l(a-k)y=m\left(1-\frac{al}{b}\right)y=k\left(\frac{a}{b}-am\right)y$.

Strike out y, and multiply through by b, and $alb-blk=mb-alm=ak-abmk$, three equations which will give us k, l, m, in terms of a, b, and c, constant quantities. $\therefore$ k, l, m, are constants.

7. Put n successively equal 1, 2, 3, &c., and we have the sums of 1, 2, 3, &c., terms=2, 6, 12, 20, 30, 42, &c., respectively.

Hence the series must be

$$2+6+12+20+\&c. = 2\{1+3+6+10+15+\&c.+\tfrac{1}{2}n(n+1)\}$$

Hence required sum

$=2(2+3+4+\&c.\ldots+n)$. Put

$$s+1=1+2+3+4+\&c.+n=\frac{n}{2}(n+1).$$

$\therefore$ Required sum

$$=\left\{\frac{n}{2}(n+1)-1\right\}2=n^2+n-2=(n-1)(n+2).$$

8. Book-work. If we insert n Geometric means between a and b, we have $r=\left(\frac{a}{b}\right)^{\frac{1}{n+1}}$ $\therefore$ in this case we get

$$r_1=\left(\frac{x^2}{x}\right)^{\frac{1}{n+1}},\quad r_2=\left(\frac{x^3}{x}\right)^{\frac{1}{n+1}},\quad r_3=\left(\frac{x^4}{x}\right)^{\frac{1}{n+1}},\ \&c.,\ r_n=\left(\frac{x^{n+1}}{x}\right)^{\frac{1}{n+1}}$$

$$i.e.\ r_1=x^{\frac{1}{n+1}},\quad r_2=x^{\frac{2}{n+1}},\quad r_3=x^{\frac{3}{n+1}},\quad \&c.\quad r^n=x^{\frac{n}{n+1}}.$$

$$\therefore\ \frac{r_2}{r_1}+\frac{r_3}{r_2}+\&c.=x^{\frac{1}{n+1}}+x^{\frac{1}{n+1}}+\&c.\ x^{\frac{1}{n+1}}=n\,.\,.\,x^{\frac{1}{n-1}}.$$

9. $Cr=C_{r-1}\times\frac{n-r+1}{r}$, $\therefore Cr>C_{r-1}$, so long as $\frac{n-r+1}{r}>1$, or $n+1>2r$, and the greatest value of r is the integer next below $\frac{1}{2}(n+1)$. When n is even $r=\frac{1}{2}n$, when n is odd $r=\frac{1}{2}(n-1)$.

No. of combinations of 13 things is greatest 6 together. Hence take 6 out of the 13 group and 2 out of the 8 group. Remove A and B, and take 5 out of the 12 group and 1 out of the 7 group. This gives 792 groups of 5 and 7 groups of 1, and each of the former may be combined with each of the latter to form a group of 6, *i.e.* there are $792\times7=5544$ groups of 6, to which if we now add A and B, they meet 5544 times. The total number of selections possible is 1716×28.

10. Book-work.

$$\frac{1}{\sqrt{3}}=3^{-\frac{1}{2}}=(4-1)^{-\frac{1}{2}}=\left\{4\left(1-\frac{1}{2^2}\right)\right\}^{-\frac{1}{2}}=\tfrac{1}{2}\left(1-\frac{1}{2^2}\right)^{-\frac{1}{2}}$$

$$\text{Now } (1-x)^{-\frac{p}{q}}=1+\frac{p}{q}x+\frac{p(p+q)}{\lfloor 2.q^2}\cdot x^2+\frac{p(p+q)(p+2q)}{\lfloor 3.q^3}x^3+\&c.$$

$$\therefore\ \tfrac{1}{2}\left(1-\frac{1}{2^2}\right)^{-\frac{1}{2}}=\tfrac{1}{2}\left\{1-\tfrac{1}{2}\cdot\frac{1}{2^2}+\frac{1.3}{\lfloor 2.2^2}\frac{1}{2^4}+\frac{1.3.5}{\lfloor 3.2^3}\frac{1}{2^6}+\&c.\right\}$$

which is the given series.

$(1+x)^n=\left(1-\frac{x}{1+x}\right)^{-n}$. Now coeff. of x^r on left hand

$=\frac{n(n-1)\,.\,.\,(n-r+1)}{\lfloor r}$. Expansion of right hand

$$=1+\frac{n}{1}\cdot\frac{x}{1+x}+\frac{n(n+1)}{\lfloor 2}\cdot\frac{x^2}{(1+x)^2}+\&c.$$

$$+\frac{n(n+1)(n+2)\,.\,.\,(n+r-1)}{\lfloor r}\cdot\frac{x_r}{(1+x)^r},$$

and the succeeding terms will contain only powers or r higher than x^r. We see that

$$\frac{x_r}{(1+x)^r}=x^r(1+x)^{-r}=x_r\left(1-\frac{r}{1}.x+\&c.\right)=x_r-rx^{r+1}+\&c.$$

$$\frac{x^{r-1}}{(1+x)^r}=x^{r-1}(1+x)^{-(r-1)}=x^{r-1}\left\{1-\frac{r-1}{1}x+\&c.\right\}$$

$$=x^{r-1}-\frac{r-1}{1}x^r+\&c.\quad \frac{x^{r-2}}{(1+x)^{r-2}}=x^{r-2}.\ (1+x)^{-(r-2)}$$

$$=x^{r-2}\left\{1-\frac{r-2}{1}.\ x+\frac{(r-2)(r-1)}{\lfloor 2}x^2+\&c\right\}$$

$$=x^{r-2}-\frac{r-2}{1}x^{r-1}+\frac{(r-2)(r-1)}{\lfloor 2}x_r-\&c.$$

Thus each term after the first contains x^r, and the sum of all those coeffs. must equal the coeff. of x^r on the left hand of the identity, *i.e.* we must have

$$\frac{n(n+1)\,.\,.\,(n+r-1)}{\lfloor r}(1)+\frac{n(n+1)\,.\,.\,(n+r-2)}{\lfloor r-1}-\left(-\frac{r-1}{1}\right)$$

$$+\frac{n(n+1)\,.\,.\,(n+r-3)}{\lfloor r-2}.\ \left(\frac{\overline{r-2}.\ \overline{r-1}}{\lfloor 2}\right)+\frac{n(n+1)\,.\,.\,(n+r-4)}{\lfloor 3}$$

$$\left(-\frac{\overline{r-3}.\ \overline{r-2}.\ \overline{r-1}}{\lfloor 3}\right)+\&c.-(-1)_r$$

$$\frac{n(n-1)\,.\,.\,(n-r+1)}{\lfloor r}.$$ And this is the required relation.

MANITOBA TEACHERS' EXAMINATIONS—1882.

MENSURATION.—1st & 2nd Classes.

Examiner—Stewart Mulvey. *Time—Two Hours.*

A. Give the rules for finding:
- (*a*) The area of an equilateral triangle.
- (*b*) A Trapezium.
- (*c*) A Circle.
- (*d*) A Sector of a circle.
- (*e*) A Segment of a circle.

B. Give the rules for finding:
- (*a*) The solidity of any pyramid.
- (*b*) The contents of a frustrum of a pyramid.
- (*c*) The cubical contents of any prism.
- (*d*) The solidity of a wedge.

1. The sides of a triangle are respectively 13, 14, and 15 feet. What is its area and the perpendicular on the greatest side?

2. One of the sides of an isosceles triangle is 7 feet and the base is 12 feet. What is its area?

3. Required the area of a segment of which the height is 20, the diameter of the circle being 23?

4. The chord of an arc less than a semi-circle is 336, and the diameter is 625. Required the length of the arc?

5. The longer axes of a prolate spheroid is 55 and the shorter 33 inches. What is the solid contents of the spheroid?

6. Find the difference between the area of a triangle whose sides are 6, 8, and 10 feet, and the area of an equilateral triangle having an equal perimeter?

7. How many standard or imperial gallons in a cistern of the following dimensions, viz.: Bottom diameter, 60 inches; middle diameter, 50 inches; and top diameter, 65 inches. Depth of cistern, 40 inches?

8. How many bushels of barley and imperial gallons would the above cistern contain when filled 30 inches from the bottom?

Solutions.

A. (*a*) Area=·433(side)^2.

(*b*) If a, b, c, d, be the four sides, area$=\sqrt{(s-a)(s-b)(s-c)(s-d)}$, where $s=\frac{1}{2}(a+b+c+d)$. If d be one of the diagonals and p and p_1 the perps. on it from the opp. angles, area$=\frac{1}{2}d(p+p_1)$.

(*c*) Area$=\pi r^2$, where $\pi=3{\cdot}14159+$, and r=radius.

(*d*) If l=length of arc, area$=\frac{1}{2}lr$.

(*e*) Area of segment=area of sector—area of triangle whose base is chord of arc and vertex at centre.

B. (*a*) Solidity$=\frac{1}{3}$(area of base × perp. height).

(*b*) Solidity$=\frac{1}{3}$(area of base+area of top+mean proportional between then) × perp. height.

(*c*) Solidity=area of base × perp. height.

(*d*) Solidity$=\frac{1}{6}$(twice length of base+length of edge) × breadth of base × perp. height.

1. $s=\frac{1}{2}(13+14+15)=21$; $s-a$, $s-b$, $s-c$, =resp. 8, 7, and 6.

$\therefore$ area$=\sqrt{21\times8\times7\times6}=\sqrt{7\times3\times4\times2\times7\times3\times2}$

$=\sqrt{7^2\times3^2\times4^2}=7.3.4=84.$

Also 2 area$=15\times$perp.$=2\times84$, $\therefore$ perp.$=2\times84\div15=11\frac{1}{5}$.

2. 2 area$=12\times$perp. But perp.$^2=7^2-6^2=13$, $\therefore$ perp.$=\sqrt{13}$.

$\therefore$ area $=6\sqrt{13}=6\times3{\cdot}65.=21{\cdot}9+$

3. Height of complementary seg=3, h'ght of its trig.$=\frac{23}{2}-\frac{6}{2}=\frac{17}{2}$.

$\therefore$ its$\left(\frac{1}{2}\text{ chord}\right)^2=\left(\frac{23^2}{2^2}-\frac{17^2}{2^2}\right)=60$, $\therefore$ chord$=4\sqrt{15}$,

$\therefore$ chord of $\frac{1}{2}$ arc$=\sqrt{(60+9)}=\sqrt{69}$,

$\therefore$ length of arc$=\frac{1}{3}(8\sqrt{69}-4\sqrt{15})=\frac{4}{3}(2\sqrt{69}-\sqrt{15})$
$=\frac{4}{3}(2\times 8\cdot306-3\cdot872)=16\cdot986$,

$\therefore$ area of sector$=\frac{1}{2}\times 16\cdot986\times 23=195\cdot339$,

area of its triangle$=3\sqrt{69}\times 3=8\cdot306\times 9=74\cdot754$,
i.e. area of complementary seg$=195\cdot339-74\cdot754=120\cdot585$,
and area of seg. =area of circle – area of comp. seg.
$=23^2\times\cdot7854-120\cdot585=415\cdot4766-120\cdot585=294\cdot8916$.

4. Half chord=168. Let h=height of seg. $\therefore$ (III. 35),
$(625-h)h=168\times 168$, *i.e.* $h^2-625h+168^2=0$,

$\therefore h=\frac{1}{2}(625\pm\sqrt{625^2-4\times 168^2})=\frac{1}{2}(625\pm\sqrt{961\times 289}$,
[for $(625)^2-(2\times 168)^2=(625+336)(625-336)$]
i.e. $h=\frac{1}{2}(625\pm 31\times 17)=\frac{1}{2}(625\pm 527)$.
Now the $-$sign does not apply, $\therefore h=49$,

$\therefore$ chord of $\frac{1}{2}$ arc$=\sqrt{(168^2+49^2)}=175$,
$\therefore$ length of arc$=\frac{1}{3}(8\times 175-336)=354\frac{2}{3}$ nearly.

5. Solidity$=33^2\times 55\times\cdot5236=31361\cdot022$.

6. The triangle is right angled, for $6^2+8^2=10^2$ $\therefore$ area$=3\times 8=24$
Side of equilateral triangle=8, $\therefore$ area$=\cdot433\times 8^2=27\cdot712$,
difference$=3\cdot712$.

7. *Assuming* cistern to be circular, it is two frustra of cones.
$\therefore$ Area of bottom$=60^2\times\cdot7854=3600\times\cdot7854$,
" mid. sec. $=50^2\times\cdot7854=2500\times\cdot7854$,
" top $=65^2\times\cdot7854=4225\times\cdot7854$,
Mean proportional between first two
$=50\times 60\times\cdot7854=3000\times\cdot7854$,
Mean proportional between second two
$=50\times 65\times\cdot7854=3250\times\cdot7854$,
$\therefore$ Solid'y low'r pt. $=(3600+2500+3000)\times\cdot7854\times\frac{20}{3}$,
$\therefore$ " upper " $=(4225+2500+3250)\times\cdot7854\times\frac{20}{3}$,
$\therefore$ " of cist'rn$=19075\times\cdot7854\times\frac{20}{3}$, Imp. gal. $=277\cdot274$ c.in.
$\therefore$ No. of gallons $=(19075\times\cdot2618\times 20)\div 277\cdot274=$

8. 10 inches of upper part filled,
$\therefore 10^3:20^3$=solidity of part : solidity of whole upper frustrum,
$\therefore$ Solidity of part$=\frac{1}{8}$ that of upper frustrum,
$=\frac{1}{8}\times 9975\times\cdot7854\times\frac{20}{3}=$
To which add solidity of lower part,
$=9100\times\cdot7854\times\frac{20}{3}$,
Content$=10346\cdot875\times\cdot2618\times 20$,
Gallons $=10346\cdot875\times\cdot2618\times 20\div 277\cdot274=$
Bushels= " $\times$ " $\times$ " $\div 2150\cdot4=$

Correspondence.

SMITH'S FALLS, April, 1883.

To the Editor of the CANADA SCHOOL JOURNAL :

DEAR SIR, – Allow me to thank you for your most flattering notice in the April number of the JOURNAL, and to ask you to explain in the May number that, being under the impression that I could procure my release at a month's notice, I allowed my willingness to accept Strathroy head mastership to be known to my friends and the Board there ; but finding, to my surprise, that my release could be procured by giving notice at the end of the year only, and that my Board were not willing to release me, although I had posted a suitable substitute in the working of my classes, I was obliged to resign the Strathroy appointment, with regret at causing any delay or disappointment in filling Mr. Embree's place. I regret that press of studies compelled me to neglect your request to furnish instances of errors in syntax, but I wish you success in your little venture in a much-needed reform. I am receiving the CANADA SCHOOL JOURNAL all right now, through the Lanark Teachers' Institute, although in some way the Secretary allowed my subscription to run out. I add, at Mr. McCreary's request, a criticism of your little Geography Primer, and hope it will be of service to you even yet. I have not the book myself, but you may send it in my order with Cato Major, German or English Literature for 1884, whenever, if ever, you publish them, and I will review them carefully.

Fraternally yours,

J. A. CLARKE, H.M.H.S.

Special Articles.

RELATION OF GRAMMAR AND LITERATURE.*

BY THE REV. DR. HUDSON.

(Concluded from last month.)

Not, however, but that something of special heed shoud be given to the Poet's language, and his use of words ; for many of these are either unfamiliar or used in unfamiliar senses : but this part of the study should be kept strictly subordinate to the understanding of his thought and meaning, and should be pushed no further than is fairly needed to that end. But I have ample cause for saying, that in many cases, if not in most, altogether too much time and strength are spent in mere word-mongering and lingual dissection ; a vice as old indeed as Cicero's time, who pointedly ridicules it in describing one as "a chanter of formulas, a bird-catcher of syllables." In fact, as we are now chiefly intent on educating people into talkers, not workers, so the drift of our whole education is, to make language an ultimate object of study, instead of using it as a medium for converse with things : for we all know, or ought to know, that the readiest and longest talkers are commonly those who have little or nothing to say. On every side, teachers are to be found attending very disproportionately, not to say exclusively, to questions of grammar, etymology, rhetoric, and the mere technicalities of speech ; thus sticking for ever in the husk of language, instead of getting through into the kernel of matter and thought.

Now, as before implied, Shakespeare, least of all, ought to be taught or studied after this fashion. A constant dissecting of his words and syllables just chokes off all passage of his blood into the pupil's mind. Our supreme master in the knowledge of human nature, it is little less than downright sacrilege to be thus using him as the raw material of philological exercitations. In the degree that it is important people should acquire a taste for him and learn to love him, just in that degree is it a sin to use him so ; for such use can hardly fail to breed a distaste for him and an aversion to him. Doubtless there is a time for parsing, as there is for other things ; but people cannot parse themselves or be parsed into a relish for Shakespeare's workmanship, or into a fruitful converse with his treasures of wisdom and power.

And with the young, especially, the study of vernacular authors should be prosecuted in entire subservience to the knowledge of things : if turned into a word-mongering process, it touches no free and natural springs of interest, and so becomes tedious and dull—just the thing to defeat all that pleasure which is the pulse of mental life. For the proper business, as also the healthy instinct of young minds, is to accumulate and lay in stores of matter : the analytic and discriminative processes naturally belong to a latter period ; and to anticipate the proper time of them is a very bad mistake. But the knowledge of things proceeds too slowly and too silently for the ends of school-room show. Boys in school and college shine chiefly by the knowledge of words, for this is the mere work of memory ; but, in practical life, men are useful and successful in proportion to their knowledge of things : which knowledge proceeds, to be sure, by the measures of *growth*, and therefore is far less available for competitive examinations and exhibitory purposes. And so, forsooth, our children must be continually drilled in a sort of microscopic verbalism, as if we had nothing so much at heart as to make them learned in words, ignorant of things. Hence, too, instead of learning how to *do* some one thing, or some few things, they must learn how to smatter of all things : instead, for example, of being taught to sing, they must be taught to prate scientifically about music.

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Thus our educational methods are all converging to the one sole purpose of generating a depurated and conceited intellectualism; which is just about the shallowest, barrenest, windiest thing in the whole compass of man's intellectual globe. But, what is strangest of all, so becharmed are we with our supposed progress in this matter, as not to see, what is nevertheless as plain as the sun at midday, that we are taking just the right course to stunt and thwart the intellect itself. For the several parts of the mind must grow in proportion, keeping touch and time together in the unity of a common sap and circulation, else growth itself is but decay in disguise. And when the intellectual man, through pride of self-sufficingness, sequesters itself from its natural commerce and reciprocation with the moral, emotional, and imaginative man, the intellect must needs go into a dry-rot.

THE SUBJUNCTIVE MOOD.*

Any of you who have studied Mason's Grammar will have found that he points out a number of difficulties which are encountered by students of English grammar. Among the prominent ones (indeed I might say the most prominent one) is the "Subjunctive Mood," and I think, from the way in which he deals with it, he has felt the difficulty himself. In saying this I do not wish you to think that I am of opinion that Mason lacks anything in clearness, or that he does violence to any of the principles of English. Of all the authors whom I have studied on this subject, Abbot, Mason, Angus, Fleming, and Bain, Mason is the only one who, in my opinion, has interpreted faithfully the teachings of English.

The real source of difficulty with which I had to contend, and with which those who have experienced the difficulty also had to struggle, was the way in which we were taught to distinguish moods. The method was purely mechanical. Now when Mason wishes us to free ourselves from a tyranny of names, and presents peculiarities, hitherto unnoticed, in a logical manner, we, as teachers who possess more than ordinary intelligence and a little literary culture, but whose minds have become vitiated by the teachings we received from the old grammars and *older* teachers, at first do not perceive the distinctions in thought, to express which the English language is so admirably fitted. It would be presumption on my part, at this time, to enter into arguments that may be urged in favor of the new conjugation; for any one who has examined Mason must have found plenty of arguments sufficiently clear to abandon the old.

It may be well here to observe that in doing away entirely with the Potential Mood (I would not speak of it did I not know that there are some teachers who still cling to the Potential Mood like true conservatives) there has been recognized that important principle in grammatical science, that all grammatical expedients are to be valued, in so far as they explain fully the force and office of those words with which they deal.

The Potential Mood long occupied a conspicuous place in the conjugation of our verbs, but has by a great many been discovered to be a useless invention—a deviation from the foregoing rule not having a solitary feature or circumstance to recommend its retention, and has, accordingly, been discarded for an arrangement that unfolds the true use of verbs in the particulars to which they relate.

It is a matter of surprise how such an arbitrary arrangement as the P. Mood should be accepted by succeeding generations as the best that could be devised. The only way I can reconcile myself to it, is that in times past we were strictly confined to the authorized text-book, and did not investigate for ourselves. The question was not: What does language teach? What does use teach? but the great question in grammatical enquiry was, What does the authorized text-book teach? The doom of this system has, fortunately for the studies of our youth, been sealed. Research to all the departments of English grammar has been extended, and it may now with truth, and not with irony, be called a science and an art.

But to come to the point. We shall suppose now that we are beginning a school term, and that we have a class that has been promoted to the fourth form, and so far as grammar is concerned, the class is perfectly familiar with the Indicative Mood, in simple and compound sentences; the Subjunctive Mood then comes up for explanation, and experience confirms me in the belief that the use of the past tense, as explained by Mason (pp. 433-434), is the most advantageous place to begin, as that contains the most easily distinguished feature of the Subjunctive Mood, viz., to determine whether the supposition corresponds with or is contrary to what is he fact; and I think this needs no very great power of discrimination.

Mason has made this point so clear that it would not only be useless, but presumptuous, on our part to attempt any further explanation. Yet the anomalous use of the past tense, in reference to present time, demands some attention. I think you will all agree with me when I say all present conditions of things were brought about in past times, either near or remote. Take then an example: "If Noah were here, I would speak to him." Noah's being present would have to be an accomplished fact, before the speaker, under the circumstances, could speak to him. Hence in the hypothetical clause, the past tense is properly employed to make a distinction between the real and the supposed condition of things. In the consequent clause the use of the past tense, secures the same end, showing "the want of congruity between the supposition and the fact."

Experience has taught me that a serious point of difficulty with beginners is the use of the Present Indicative in hypothetical clauses. The point where they fail is, in comprehending the reason for the supposition or what was in the mind of the speaker—to denote which is the office of moods. Here many, who have tried to investigate the matter, have experienced a difficulty; and with many investigation has stopped here, simply because they could not tell when to use, and when not to use, the Present Indicative in hypothetical clauses. For this reason I have given this point a somewhat lengthy consideration, and to make the matter perfectly clear, we shall take an example in which the Present Indicative is used in the hypothetical clause. "If the boy is guilty he deserves to be punished." In dealing with this sentence before my class, I was asked by one of my senior pupils, "Why does the speaker put his opinion in the form of a supposition if there is no doubt on his mind?" It may seem strange, that although students in their studies daily meet with this use of the Indicative, they are hopelessly bewildered when they attempt to define what was in the mind of the speaker in such cases, nevertheless it is a fact. In clearing this path of investigation for my pupils I require them first to recite the two views of suppositions, so fully illustrated in Mason's Advanced Grammar (p. p. 429-433); then, taking an example like the previous one, we pursue something like the following: We shall suppose that the boy mentioned in the example, while on the play-ground, was guilty of a misdemeanor deserving corporal punishment, and another boy who witnessed the crime informed the teacher of the fact. He sends for the boy, who comes in, and the other boys follow to the ante-room, to know the result. After a thorough investigation of the matter, the boy acknowledges the fault, and the teacher

*A paper read before the West Huron Teachers' Institute, on Saturday, February 7th, 1883, by William Leigh, Farquhar.

is in the act of inflicting the punishment, when a stranger enters the ante-room where the boys are assembled and asks the cause of the boy's being punished; he is informed of the circumstance, and says, "Well, if he is guilty he deserves to be punished." Of the boy's guilt he has no doubt, and consequently uses the Indicative Mood. It may appear to you that I have magnified this difficulty, but I have invariably found that, simple as it may seem, it is a point which I had difficulty in mastering, and which I have found is a stumbling-block to students. With the desire to be practical I have simply attempted to indicate, in terms as plain as possible, the plan with which I have been most successful in getting my pupils to master the Subjunctive Mood.

When the use of the Present Indicative in hypothetical clauses is fully understood, little difficulty will be experienced in determining when to use the Present Subjunctive. A few words on this point may not be entirely thrown away. When there are two things that are liable to be confounded, if we get a clear idea when to use the one, the use of the other will be more easily understood. If we know when to use the Present Subjunctive it will materially aid us in determining when to use the Present Indicative in hypothetical clauses. In listening to a sermon some time ago on evolution, I heard the minister make use of the following: "If the Mosaic account of the creation be true, evolutionists are in error." Now let us consider the statement for a moment. Why did he make use of the expression "evolutionists are in error"? From his sermon and from what was passing in his mind, he was certain that the Mosaic record is true because only on his belief of the correctness of the account could he make the assertion that "evolutionists are in error." The speaker misrepresented what was passing in his mind by using the Subjunctive instead of the Indicative.

Take another example, viz.: the one given in our authorized text-book, and by pursuing a similar line of argument you will see clearly that the speaker misrepresents what is passing in his mind when he says "If it rain we shall not come." What would lead the speaker to make use of the expression? We must think exactly as he did, and he transfers himself forward mentally to the time of starting; then the only reason he could possibly have would be its raining at that time. Change the expression to "If it does not rain we shall come," and all becomes perfectly clear. When, then, you will ask, is the Present Subjunctive used? The best answer that I can give is to be found in Mason's Advanced Grammar, pp. 438 and 439; and in his remarks on the Subjunctive Mood in the preface to his Grammar.

There is a point here to be strictly guarded, that is, not to confound this use of the Subjunctive with that found in suppositions respecting the future, treated as "a mere conception of the mind," and to express which the past tense is employed. I may here refer to the *infallible* guide we used to have for the correct use of the Subjunctive Mood: "When contingency and futurity are both implied, the Subjunctive; when contingency and futurity are not both implied, the Indicative." This is entirely wrong, and should be vigilantly guarded against as a fruitful source of error, since it contains only part of the truth.

But the most perplexing part of the subject remains to be considered, viz.: whether there is a Future Subjunctive or not. If you examine the works of Abbot, Mason, Angus, Bain, and Fleming, you will find that Bain, Fleming, and Angus have a future tense in their paradigms, Mason has none, and Abbot (if I may be permitted to use the expresion) is on the fence. Were we to decide this matter by numbers, Mason's testimony being alone would go to the wall; but let us appeal to a higher authority than any of these, viz.: Language. What does it say in the matter? Take an example: "If Mr. Bishop should advocate the N. P. his popularity with the Reform party would decline" (assumed for the sake of argument) The occurrence of the probability spoken of in the sentence, if it should be brought to the test of reality, would be in the future. The mental position in which the speaker places himself is to regard it as past. Let me reconcile these statements, contradictory as they must seem. The sentence may be reconstructed to the following, and yet convey the same meaning: "If Mr. Bishop were to advocate the N. P. his popularity with the Reform party would decline." I think any and all of you will agree with me that the verb in the hypothetical clause is in the past tense. But this argument fails, when applied to the consequent clause. The best way, then, to dispose of the difficulty is to place ourselves in the speaker's place mentally. The supposition is "a mere conception of the mind." Mentally, the speaker transfers himself forward to a period to which the probability of which he speaks is a past event. In simpler language, the speaker views Mr. Bishop's advocacy of the N. P., and his consequent fall in the Reform estimation, as accomplished. Bearing in mind the fact that mood has reference to the mental attitude of the speaker, any one who regards my statement of the question, so far, as correct, must admit that the verbs in the example are in the past tense. Consequently I think we must come to the conclusion that Mason is right. What the others call future he calls a past-paraphrastic.

These are the principal difficulties I have experienced in studying and teaching this subject, and the plans I have taken in overcoming them. If any teacher present has met with the same difficulties and has received the slightest hint that will be of any value I shall be satisfied. But let me in conclusion urge upon you all the necessity of investigating for yourselves, and not to accept anything simply because the text-book says so, but because you are satisfied it is right.

THE NEW EDUCATION.*

His subject was: "The New Education." The lecturer, after a few remarks on the course of lectures which the Y.M.C.A. had arranged this winter, and the efforts which it was putting forth to assist itself as an educative force in Quebec, proceeded to discuss as a preliminary the civilization of the present time. Progress and order, he said, were the two great factors of our civilization, but they were neither constant nor always sympathetic. Ever and anon they make a shuttlecock of citizenship in the restlessness of Liberalism and the reaction of Conservatism. As an instance of this he pointed out the political antagonism as it is to be seen in the history of the nations, and which seemed to point to civilization as anything but a harmony. It was necessary, therefore, to seek the counterpoise which is apt to be overlooked in the general movement of promoting a true civilization. Christianity is undoubtedly the greatest of the forces which has tended to bring harmony out of the discord in human nature. The effects it has produced established a fair induction that it is a divinely appointed instrument for the elevation and improvement of men. There is a spurious kind of Christianity which has blurred the pages of history. But the true Christian civilization, the highest recognition of the moral, has in it no retrograde activity. It promotes in man a confidence, a *forwardness*, not however from the evil he finds in others, but from the good he finds in himself. Over-confidence on the part of Christianity is bigotry, and bigotry promotes the harmony of Hades; it is the conceited ignorance of a blinded hope, it is superstition with its inherent darkness rendered visible by a mere glimmer from the true light. In other words, bigotry is the caricature of dogmatism, and *dog*-matism, as the Rev. Sydney Smith says, is *puppy*-

* Address delivered before Y.M.C.A., by John Harper, M.A., Rector, High School, Quebec.

ism full grown. What we want is a force which shall dissipate the turpitude of man's bigotry, which shall restore to him the full effulgence of a true intelligence, the full harmony of a true civilization. Do we know such a force? The lecturer then spoke of the printing press and the steam engine—of the one as the exponent of progressive knowledge, of the other as the symbol of the physical in the industrious, the emblem of man's active powers. The co-operation of these three forces, Christianity, knowledge, and industry, forms the thread-work which runs through society in its regular or crystalline form, just as man's personal being and destiny depend upon his moral, intellectual, and physical activity. It is this co-operation which has promoted the civilization of the present time. And just as the Alchymists busied themselves with a search which did not discover an elixir vitæ nor a universal solvent, but which nevertheless laid the foundation of the science of chemistry, may we not, in observing the imperfections of the civilization we possess, enter upon a search for some psychical force which, though it may not resolve *all* these imperfections into the pure gold of wisdom, truth, and justice, may yet perfect the principles of a science of education? The foundations of such a science have been laid deep in the history of man's nature, and to rear upon them some beautiful and symmetrical structure which shall adorn the history of the nations, and stand as the development of man to the utmost limit of his own capacities, is the aim and object of what has been called the New Education.

Mr. Harper, who confined himself throughout to the negative side of the enquiry, proceeded to discuss a passage taken from Addison's works, in which education is compared to the sculptor's art. After examining carefully the various assertions in the paragraph, he proceeded to say: In this comparison instituted between the mind in its incipient stage, and a block of marble in the quarry, we have a glimpse of the *tabula rasa* theory of John Locke, who looked upon the infant's mind as a blank organism, something like a clean sheet of paper, on which impressions are made as the consciousness and experience of the child take shape. And had such a theory been safely established by the sensational school of philosophy, the beauty of Addison's simile would certainly be enhanced by its truthfulness. But even Locke had to confess to an innate activity in the mind. The impressions made upon a block of marble by the sculptor's chisel are not the impressions made upon the child's mind by a process of education. The latter impressions, in their co-ordination, *form* an experience, and an experience implies an activity on the part of the recipient of the impressions, an activity which in turn promotes co-ordination; whereas a block of marble is one of the most striking emblems of passivity. Perhaps the nearest approach to a valid comparison between a statue and a matured mind would be to say that just as the artist finds in marble certain properties which he turns to account, so the teacher turns to account the capacities and characteristics which he finds in his pupils. This was evidently the simple idea in Addison's mind when he elaborated his simile. But that is as far as it is safe to go, inasmuch as the sculptor turns the properties of marble to account in the perfection of his art, while the skilful teacher turns whatever he finds in the child's mind to the improvement of the child's capacities and active powers. He sets the mind in action by means of its own activity, and guides it to its own adornment. The lecturer here gave an illustration of education when the mental activity is at its weakest. The case was of a little girl who had lost her hearing, power of sight, and even her sense of taste and smell, at the early age of two years. For twenty years her education proceeded, and though she could only gain her knowledge through one sense, she was at last able to converse freely by signs, to read the raised print for the blind, turn up any passage in the Bible, keep a diary, and write letters to her friends. Here was an example of the New Education in embryo—the imitative faculty, excited through the activity of but one of the senses. The same process is to be seen in our institutions for the blind and for the deaf and dumb, but more particularly in the Joseph McKay Institute of Montreal. To this institution are admitted pupils who, though dumb, have no defects in their vocal organs, and in a very short time, by the process of imitation, they are taught to articulate words. From these and other examples, the lecturer drew the conclusion that the New Education is not to a human soul what sculpture is to a block of marble. Knowledge is power; education is a force; knowledge is potential or possible energy; education is the element acting as gravity acts on the physical, which makes it kinetic or active. Knowledge is the food of the mind; education is the juice acting upon that food for purposes of mental digestion and assimilation. Knowledge is the stock-in-trade with which the mind starts business; education is the activity of those business principles which increases the stock and thus extends the commercial influence of the firm. Knowledge is ecstatic in enjoyment; but it is education that promotes ecstacy. Its ambitions soar beyond this world; but without education their wings are clipt. By means of education, knowledge becomes perennial in its growth; without it, it is a plant matured at its birth. In truth, education is to knowledge what the light and heat of the sun are to the flower. The plant in its germ state has laid up within it vegetable energy which may lie in the potential state for thousands of years; but once let the rays of the sun, under favoring circumstances, play around it, and the visible growth of the plant very soon indicates the energy which was once only a possibility now in active operation. And so it is with the mind, with its stock of knowledge, intuitive or acquired. In that knowledge lies the possibility of a full-grown mind. It may lie as a dead weight, an ornament to the memory perhaps, but of no real benefit to the mental activities. But once let that knowledge be rendered active by a beneficent system of education, and at once the mind will assume new phases, and continue to develop to these limits by which the Creator has bounded it.

Education then is no sculptor's chisel. It does not destroy in order to beautify. It does not cut out; it builds up. It does not repress in order to improve; it improves in order to impress. Aristotle tells us that the sculptor removes the rubbish and clears away the superfluous matter in order to reach the statue. But whatever rubbish or superfluous matter education finds in the mind it takes possession of it, and by a psychical process of which we know as little as of the first life movement, it brings forth the beauty of knowledge from the rot of ignorance. Ignorance is as often false perception as lack of knowledge; and in this sense, and this sense alone, the false is the undeveloped true, just as in morals evil is sometimes considered an undeveloped good. Let the false in man's mind be acted upon by the fullest activity of a man's intelligence brought into play by a healthy system of education, and let the evil in man's heart be acted upon by the warmth of a Savior's love and the purifying confidence in a Heavenly Father's favor, and the false becomes true, the evil good, and the whole man is elevated to that plane of intellectual holiness on which alone can rest the civilization which is a harmony. As the poet says: "With these elements mixed in one being, Nature may truly stand aside and say to all the world, *This is a man.*"

Still keeping to the negative side of the enquiry, the lecturer proceeded to examine other authorities, pointing out some of the defects in their opinions, and giving the audience a clearer insight into the aim and purpose of the New Education. He spoke of the allusion to education as a medicine. Knowledge is to be recog-

nized not as medicine but as food. Sometimes the manner in which food is given to children makes it as distasteful to them as medicine, and this is as much the case with food for the mind as food for the body. But, generally speaking, the child delights in acquiring information. The eye brightens when beholding things beautiful, the ear quickens when it drinks in the harmony of sound, the whole body quivers with the excitement of joy when some pleasant discovery is made by the sense of touch, taste, or smell. If knowledge naturally acquired be medicine, then it is the God of nature who has sweetened the cup into a dainty and wholesome dish for our little ones; and if the joy of such be rendered bitter, it is by some one who does not understand fully the processes of nature. The lecturer then spoke of the pleasure to be found in the class-room. He likewise reviewed the utilitarianism which not unfrequently opposes the progress of the New Education. Two of these theories he designated the "dollar and cent" theory and the "quart-jug" theory, which he humorously illustrated. He characterized the education which some worldly-minded people commended as that process to which old Fagin subjected Oliver Twist and the Dodger, and which made the latter more of the artist than Bill Sykes. True education cannot make a man worse than he is; it must make him better. Other forces are certainly at work which counteract the beneficial influence of a good education in a man, and if he fall, as fall he may, considering the thousand and one temptations to over-reach himself and others, he falls not because he is educated, but in spite of his being educated. The purpose of education is neither to train men to gain money nor to lose money, neither to make them millionaires nor paupers. We certainly desire to imbue them with those moral principles which, if followed, will keep them out of jail and make them besides honorable members of society; and that so-called educated men become either paupers or jail-birds must be traced to that restlessness which society encourages in men by its flatteries rather than to over-education.

Our space, however, will not permit us to extend our report at present. Mr. Harper concluded his able lecture in these words:—

Ladies and gentlemen,—To pause suddenly here on the threshold of the position is to leave our task of investigation only half done. But I have detained you too long already, and have only time, not to draw a conclusion, but to make a statement. It is impossible to assert at this stage of our inquiry that the New Education is a panacea for all the moral delinquencies of society, or that it is the corrective of the deteriorating reaction we see in those other forces which tend to raise society to a harmonized civilization. But this we can assert, notwithstanding the limited sphere of our present investigation: The New Education is founded upon the very constitution of man's nature. It is a science, and like all other sciences, is grandly progressive. As a powerful influence for man's elevation and enlightenment—the associate of pure religion, the ally of true knowledge and industry—it is accomplishing for society a great and mighty reform. As the grandest of all phenomena, it has engrossed the attention of our ablest thinkers and most spirited philanthropists. Like a mighty river, it had its origin in the disinterested philanthropy of a humble citizen. Sometimes the mist of superstition hung over the roll of its increasing waters, but impotent to pollute its current rushing in its majestic career against the strongholds of bigotry and ignorance. Onward it still continues to roll, less often stained with the bloodshed of persecution and intolerance, sometimes swelling into a rapid as it passes over the rocks of a false civilization, but oftener flowing amid scenes of peace and prosperity. Still onward, searching out the unclean dens of iniquity and crime, and bearing on its broad bosom the emblem of liberty; if it be not itself the hope of an approaching unity among the nations. The leper disdained at first to leap into the waters which could promote in him health, strength, and purity; and even yet the sunken masses in city and country refuse to educate they and their children. Then the work of education still stands incomplete. But incomplete though it be, we cannot but marvel at what has been accomplished. Everywhere the achievements of education are being examined in order that a perfection may be attained to, a perfection which has found its development thus far in the New Education.

At the close of the lecture a vote of thanks on motion of Hon. G. Ouimet, Superintendent of Education, and the Rev. Robt. Ker, was unanimously voted to Mr. Harper for his thoughtful, instructive, and entertaining paper.—*The Morning Chronicle.*

VOCAL MUSIC IN THE PUBLIC SCHOOLS.*

The great stumbling-block in the way of systematic teaching of music in our schools is not the inability of the teachers, but the prevalent idea that one requires special musical talent to either study or teach the subject. This is a fallacy. The only talent required is the faculty of imparting instruction to others, which every good teacher possesses. United with a knowledge of the subject, this will enable anyone to teach music successfully. The abstract principles are simple; and any child will understand the characters as readily as algebraic or arithmetical signs. Many ask: "How can I teach my pupils to sing, when I cannot sing myself?" The question shows a misconception. The gift of song is as universal as the gift of speech. A small proportion of the human race have not the capability of speech, or possess it only in a slight degree. But a small proportion have not the capability of song. Then why do such a comparatively small number of people sing? Because the men and women of this generation have not been taught in childhood that they have the faculty, and how to use it. Let not the mistake be made in educating our children. Thousands of school teachers in Ontario possess the "special talent" that they ascribe to a small minority. With a few exceptions, all can fit themselves to teach music. Many say: "I *never* could sing—I haven't any voice." They deny the existence of that which the utterance of the word proves. *All* have voice—and the voice in song is the same as that in speech, differing only in use.

"The difference between music and speech lies in the manner of transition from one degree of pitch to another. In speech, the movement is concrete, the voice continually sliding upward and downward, never remaining at one point of the scale except in the monotone. The singing voice passes from one pitch to another by a distinct step called discrete movement." †

Voices differ in volume, quality, and pitch. All cannot have the advantages of a professional elocutionist or orator, and yet this does not deter any teacher from instructing pupils how to read and speak correctly. All cannot possess the perfect vocal organs given to but a few great singers. Should this prevent teachers exercising the vocal organs they do possess? No. It should rather be an incentive to development and improvement of their powers, and the germ that is innate in every human being.

* By S. H. Preston, Normal School, Toronto. † Elocution. Fenno.

Examination Questions.

PUPIL TEACHERS' EXAM. PAPERS—Nov., 1882.

CANDIDATES.

ARITHMETIC.

MALES.

1. Find, by practice, the value of 6 tons 11 cwt. 1 qr. 24 lb. at £1 18*s.* 6*d.* per cwt.

2. If the rates on a house, of which the rent is £63, be £9 16*s.* 3*d.*, what is the rent of a house on which the rates amount to £11 8*s.* 11½*d*?

3. If 24 men can build a wall in 40 days, and 6 men leave after 4 days, in how many days will the remaining men finish the wall?

4. If 8 cwt. 14 lb. be carried 30 miles for 10*s.* 6*d.*, how far should 19 cwt. 2 qr. be carried for the same money?

5. If 12 men and 6 boys do a piece of work in 22 days of 8 hours each, in how many days of 9 hours each would 16 men and 4 boys do the same, 2 men doing as much as 5 boys?

FEMALES.

1. Make out the following bill:—

81 lb. tea @ 2*s.* 11*d.* per lb.
99 lb. coffee @ 1*s.* 7½*d.* per lb.
54 lb. cocoa @ 1*s.* 5*d.* per lb.
243 lb. rice @ 2¾*d.* per lb.
31 lb. 8 oz. butter @ 1*s.* 10*d.* per lb.
63 lb. loaf sugar @ 7½*d.* per lb.
108 lb. moist sugar @ 3½*d.* per lb.
38 lb. 4 oz. bacon @ 10*d.* per lb.
55 lb. 2 oz. cheese at 8*d.* per lb.

2. Find the cost of 14,773 acres 2 roods of land at the rate of £63 10*s.* 6*d.* per acre.

3. What is the value of one thousand four hundred and ninety-one articles at £32 11*s.* 1*d.* each?

4. Find the cost of 30 cwt. 3 qr. 9 lb. 12 oz. at £16 6*s.* 8*d.* per cwt.

GRAMMAR.

1. "Two brothers once did weeping part
On the edge of the sea so blue;
The one was fair, and false of heart,
The other was gallant and true."

(*a*) Point out and parse all the verbs and adjectives in the above.

(*b*) How do you know that the words "the one" and "the other," in the above are not adjectives?

2. What kinds of adjectives admit of comparison? What do not?

GEOGRAPHY.

(Answer either Q 2 or Q. 3, not both.)

1. What is meant by the basin of a river? Illustrate your answer by referring to the basin of the Severn, describing the counties drained by it, and naming in order its principal tributaries.

2. Describe minutely a voyage from Newcastle-on-Tyne to Stirling.

3. Where are the following articles made:—Silk goods, stockings, lace, gloves, needles, porcelain? Name towns as well as counties, and describe the situation of each.

COMPOSITION.

Write from dictation the passage given out by the Inspector:

"When he emerged from the devious path | which conducted him through the thicket, | he found himself on a ledge of flat rock | projecting over one side of a chasm | not less than a hundred feet deep, | where the dark mountain stream | made a decided and rapid shoot over the precipice, | and was swallowed up | by a black yawning gulf. | The eye in vain strove to see the bottom of the fall; | it could catch but one sheet of foaming uproar | and sheer descent, | until the view was obstructed | by the projecting crags | which enclosed the bottom of the waterfall, | and hid from sight the dark pool | which received its tortured waters."

PENMANSHIP.

Write, in large hand, as a specimen of copy-setting, the word *Cymbeline.*

Write, in small hand, as a specimen of copy-setting, *The Turkish preparation makes for Rhodes.*

FIRST YEAR.

ARITHMETIC.

MALES.

1. Divide $2\frac{3}{4}+3\frac{2}{3}$ of $1\frac{4}{5}$ by $5\frac{1}{2}$ of $1\frac{1}{3}-\frac{2\frac{1}{8}}{4\frac{7}{11}}$.

2. What fraction of $\frac{6\frac{1}{4}+5\frac{1}{3}}{5\frac{1}{8}-4\frac{2}{3}}$ of 3*s.* 4*d.* is 2*s.* 10¾*d.*?

3. Give a rule for finding the decimal point in dividing one decimal by another. Divide 29·5625 by 6·25; ·295625 by 625; and 295625 by ·625.

4. Express $1\frac{3}{5}$ of £1 17*s.* 10½*d.* as the decimal of £5, and find the value of $\cdot\dot{4}2857\dot{1}$ of 2½ guineas.

Show that $\dfrac{\cdot\dot{7}2\dot{9}\times 1\cdot\dot{3}4\dot{5}}{\cdot 0\dot{2}7 \text{ of } 2\cdot 08\dot{3}}=17\cdot 28.$

FEMALES.

1. A person's salary is £383 5*s.* for 365 days; in how many days will he have a claim for £63?

2. A bankrupt having £645 5*s.* 3½*d.* left, can pay 7*s.* 8½*d.* in the £. What is the amount of his debts?

3. If 16 men, working 8 hours a day, can reap 9 acres in 3 days, how much land can 20 men, working 6 hours a day, reap in the same time?

4. If 6 horses eat 18 guineas' worth of hay in 6 weeks, when hay is 9*d.* a stone, what is its price per stone when 15 horses eat £110 5*s.* worth in 21 weeks?

GRAMMAR.

1. "Not wholly in the busy world, nor quite
Beyond it, blooms the garden that I love;
News from the humming city comes to it,
In sound of funeral or of marriage bells;
Although between it and the garden lies
A league of grass, washed by a slow, broad stream,
That stirred by languid pulses of the ear,
Waves all its lazy lilies."—TENNYSON.

(*a*) Point out all prepositions in the above, and show what words they govern.

(*b*) Parse the word "that" as it is used in the second and seventh lines.

(*c*) Which words in the above are adverbs? Show that they are such.

2. The words *except*, *notwithstanding*, are sometimes used as prepositions, sometimes as conjunctions. Give examples of their use in each capacity.

GEOGRAPHY.

Answer either Q. 2 or Q. 3, not both.

1. Draw a full map of Russia in Europe. Insert the lines of latitude and longitude.

2. What is a river-basin? Illustrate your answer by referring to the basins of the Severn and the Danube, describing minutely the courses of those rivers, and their principal tributaries.

3. Say what you know about the government of the different countries of Europe; and explain the terms, *Absolute Monarchy, Limited Monarchy, Republic, Confederation.*

HISTORY.

1. How many kings named William have governed in England? Give dates of their accession and death.

2. Name the queens who have reigned in England, with the length of each reign.

3. Give names and dates of the sovereigns who reigned between 1460 and 1550.

COMPOSITION.

Write from memory the substance of the passage read to you by the Inspector:—

"An incident which occurred when Horace Walpole, with the poet Gray, was crossing the Alps into Italy in 1739, will show the difference between travelling in those days and at present. Walpole had a fat little black spaniel called Tory, of which he was very fond. As this pampered creature was trotting beside the ascending chaise, enjoying his little constitutional, a young wolf sprang out of the covert, and snatched the shrieking favourite away from amongst the carriages and servants before any one had the presence of mind to draw a pistol. Walpole screamed and wept, but Tory had disappeared for ever."

SECOND YEAR.

ARITHMETIC.

MALES.

1. At what rate per cent., simple interest, will £375 12*s.* 6*d.* amount to £460 2*s.* $9\frac{3}{4}$*d.* in 5 years?
2. Find the compound interest on £2.533 6*s.* 8*d.* for $2\frac{1}{3}$ years at 3 per cent. per annum.
3. On what sum of money will the simple interest in 3 years 219 days at 4 per cent. per annum amount to £685 8*s.* $9\frac{3}{5}$*d.*?
4. A money-lender gets 15*s.* for the loan of £24 for 5 calendar months. What rate per cent. per annum does he get for his money?
5. What percentages of 5 are 20, $3\frac{1}{2}$, ·02, and $1\frac{1}{3}$?

FEMALES.

1. Find the least common multiple of 225, 255, 289, 1023, and 4095.
2. Reduce the following compound fraction to a simple one: $\frac{5}{7}$ of $\frac{3}{8}$ of $\frac{6}{7}$ of $70\frac{2}{9}$ of $\frac{3}{40}$ of $1\frac{7}{11}$ of 147.
3. Divide $3\frac{1}{4}-\frac{5}{8}$ of $\frac{4}{15}$ by $21\frac{1}{5}+\frac{3}{10}+4\frac{1}{3}$ of 5.
4. What fraction of a sovereign is $4\frac{14}{21}-10\frac{44}{55}+9\frac{3}{45}-\frac{52}{117}$ of a penny?

GRAMMAR.

1. "It is not *dying* for a faith *that* is *so hard*, *but* living *as if* it *were* a *reality* to us."
   (*a*) Analyse the subordinate sentences in the above, pointing out to which class each belongs.
   (*b*) Parse the words in italics.
   (*c*) Show from the above what kind of conjunctions are followed by the subjunctive mood, and give other examples.
2. Distinguish between (present) participles and gerunds. Give some examples of the use of the latter.

GEOGRAPHY.

Answer two questions.

1. Draw a full map of Russia in Europe. Insert the lines of latitude and longitude.
2. Give full Notes of a Lesson on "Malta."
3. Say what you know about British Columbia, the Mackenzie, the Great Slave Lake, Melville Sound, Hudson Straits, Baffin's Bay, and Cape Sable.

N.B.—If you do *not* answer *Q.* 1, draw little sketch-maps in illustration of 2 or 3.

HISTORY.

1. Who was Stephen? Who disputed the throne with him and upon what grounds? Which do you consider to have had the better right to it?
2. Who was Richard I.? How came he to be so long absent from England, and how was the country governed during the king's absence?
3. Name the locality nearest to your home which is famous for a battle fought before 1486. Describe the parties to that contest and its issue.

COMPOSITION.

Write full Notes of a Lesson on "The Oak."

EUCLID.

All generally understood abbreviations for words may be used.

1. If two straight lines cut one another, the vertical, or opposite angles shall be equal.
2. At a given point in a given straight line, to make a rectilineal angle equal to a given rectilineal angle.
3. Find a point in a given straight line such that its distances from two given points may be equal.

THIRD YEAR.

ARITHMETIC.

MALES.

1. If a grocer buys cheese at £4 13*s.* 4*d.* per cwt., how must he sell it per lb. to gain 15 per cent. on his outlay?
2. If by selling tea at 3*s.* 6*d.* per lb. a grocer gains 12 per cent., how much per cent. would he gain or lose by selling it at 3*s.* per lb?
3. A man derives an income of £108 by investing £3,595 10*s.* in the 3 per cents. What is the price of stock?
4. *A* invests £6,000 in one railway stock at 108, paying a dividend of 4 per cent.; and *B* invests £5,000 in another railway stock at 75 paying a dividend of $2\frac{3}{4}$ per cent. What is the difference in the annual incomes derived?
5. Divide £1,746 amongst *A*, *B*, and *C*, so that *B* may have 50 per cent. more than *A*, and *C* 33·3 per cent. more than *B*.

FEMALES.

1. Find the value of ·007 × 700 × 760·3 × ·00416 × 100000.
2. Find the quotient of ·7575 by $16\frac{2}{3}$.
3. Find the value of ·972916̇ of £1.
4. Find the value of the following expression: ·68125 of £1 + ·375 of 13*s.* 4*d.* + ·605 of £3 2*s.* 6*d.*

GRAMMAR.

1. "And now *farewell.* I am *going* a long *way*
   To the island valley of Avilion;
   Where falls not *hail*, or rain or *any* snow,
   Nor ever wind blows loudly, but it lies
   Deep-meadowed, happy, fair with orchard lawns,
   Where I will *heal me* of my grievous *wound.*"—TENNYSON.
   (*a*) Give an example from the above of a simple predicate, of a predicate with its complement, and of a predicate with its extension.
   (*b*) Parse the words in italics.
   (*c*) "An adjective sentence is sometimes introduced by a relative adverb." Give an example of this from the above.
2. Point out the Latin preposition in each of the following words, and give the meaning of each preposition, and of the word with which it is compounded: *superfluous*, *extra-mural*, *percolate*, *cisatlantic.*

GEOGRAPHY.

Answer either Q. 2 or Q. 3, not both.

1. Draw a map of Lower Egypt, showing the positions of Alexandria, Cairo, Damietta, Port Said, Ismailia, Suez, Rosetta, and the two mouths of the Nile. Insert the lines of latitude and longitude.
2. Give Notes of a Lesson on "Japan and the Japanese."
3. Say what you know about Trichinopoly, the Neilgherry Hills, Seringapatam, Hyderabad, the Godavery, the Krishna, and the Nerbudda.

HISTORY.

1. Show the connection of James I. with his predecessors on the English throne, and explain how the great parties here came to assent to his accession.
2. Give dates and localities of any battles fought since 1486 in the county where you live, or in an adjoining county. Describe the parties engaged in one of them, with its result.
3. When was the Legislative Union of Great Britain and Ireland effected? Describe events which led to it.

COMPOSITION.

Write from memory the substance of the passage read to you by the Inspector. :—

"During the last two seasons, terrible havoc has been committed by caterpillars on the foliage of our oaks and other trees. The natural enemies of the caterpillars, and of the flies or moths which produce them, are the birds. Nearly all birds, with the exception of a few which are exclusively seed-eaters, feed on insect life during some part of the year; while some of them, as is well known, live on insect food entirely. The rook, though he takes some of the farmer's corn, has an enormous appetite for insects. Even the common and much abused house-sparrow feeds her young on grubs and caterpillars. Previous to the two severe winters we lately had, birds were extremely plentiful in wooded districts. But since then they have even in many such districts become extremely scarce, and I have no doubt that in the birds we have lost the best friends of our trees as well as of the farmers."

EUCLID.

All generally understood abbreviations for words may be used.

1. If a quadrilateral figure be bisected by one diagonal, the second diagonal is bisected by the first.
2. Any two angles of a triangle are together less than two right angles.
3. If a side of any triangle be produced, the exterior angle is equal to the two interior and opposite angles, and the three interior angles of every triangle are together equal to two right angles.

ALGEBRA.

1. Simplify $(a+b)^2-(b+a)(a-b)-\{a(2b-2)-(b^2-2a)\}$.
2. Find the G.C.M. of $x^2-7x+10$ and $4x(x^2+10)-25x-62$.
3. Solve the equation :—

$$\frac{2x-6}{3x-8}=\frac{2x-5}{3x-7}$$

FOURTH YEAR.

ARITHMETIC.

MALES.

1. A man invests £4,875 in the 3 per cents. at $97\frac{1}{2}$; he afterwards sells out at 99, and reinvests the money in railway shares at 110, paying a dividend of 4 per cent. Find the increase in his income.
2. Find the present value of a bill for £2,287 10*s.* due 5 months hence, interest being at 4 per cent. per annum.
3. Find the value of $\cdot 2\dot{1}4285\dot{7}$ of 3 guineas + 1·375 of £2 − ·0625 of a crown + 4·16 of 1d.; and reduce the result to the decimal of £5.
4. The capital of a railway company is £5,000,000; the gross earnings in a year are £500,000, and the expenses are 55 per cent. of the earnings. What dividend per cent. can the company pay on the capital?
5. A man mixes 36 gallons of whisky at 15*s.* a gallon with 36 gallons at 13*s.* 6*d.* a gallon, and adds 9 gallons of water. If he sells the mixture at the rate of 19*s.* a gallon, what per cent. does he gain on his outlay?

FEMALES.

1. Find the amount of £417 7*s.* 9*d.* for 1 year 10 months, at $4\frac{3}{8}$ per cent.
2. If tea be bought at 3*s.* 6*d.* per lb., and be sold at 3*s.* $10\frac{1}{2}$*d.* per lb., find the gain per cent.
3. A hare pursued by a greyhound was 130 yards before him at starting; whilst the hare ran 5 yards the dog ran 7 yards. How far had the hare gone when she was caught by the dog?
4. If 20 men can do a piece of work in 12 days, find the number of men who could do another piece of work 3 times as great in $\frac{1}{5}$ of the time.

GRAMMAR.

1. "*How* many men, in the common concerns of life, lend sums of money which they are not *able* to spare, *are bound* for persons whom they have little friendship *for*, give recommendatory characters of men *whom* they are not acquainted with, bestow places on those whom they do not esteem, *live* in such a manner as *themselves* do not approve, and *all this* merely because they have not the confidence to resist solicitation, importunity, or example!"

ADDISON: *Essay on "False Modesty."*

(*a*) Show from the above that an infinitive may be the complement of a verb.
(*b*) Analyse from *How many men* to *spare*.
(*c*) Parse the words in italics.
(*d*) To what period of the English language does the above belong? Notice any difference you may observe in it, compared with the style of the present day.

2. Give the meaning of the following words :—*Ethics, astronomy, eucharist, monastery.* State to which element in our language they belong, and account for their introduction into our language.

GEOGRAPHY.

1. Give full Notes of a Lesson on the "Gulf of Mexico;" and illustrate by a map. Insert the lines of latitude and longitude.
2. What is a river-basin? Illustrate your answer by reference to the basin of the Amazon.

HISTORY.

1. What periods of our history have been remarkable for contests with France? To what in general would you attribute those contests?
2. What was the condition of Parliament during September 1882? What is its condition now, and what do you expect to be the next change?
3. Give dates and brief particulars of any wars in which this country has been engaged during the present reign in Europe, Asia, and Africa.

COMPOSITION.

Write a short Essay on "Fables and their Uses." (Illustrate the subject by giving any fable you can remember.)

EUCLID.

All generally understood abbreviations for words may be used.

1. *ABCD* is a trapezoid, *BC* being parallel to *AD*. If *E* be the middle point of *DC*, the triangle *AEB* is half the trapezoid.
2. To draw a straight line through a given point parallel to a given straight line.
3. If a straight line be divided into any two parts, the square on the whole line is equal to the squares on the two parts, together with twice the rectangle contained by the parts.

ALGEBRA.

1. Find the value of $\frac{a}{a+b}+\frac{b}{a-b}-\frac{b^2}{a^2-b^2}$ when $4b=3a$.
2. Solve the equations :—

$$(1)\ \frac{3x}{4}-\frac{2y}{3}=1=\frac{7x}{18}+\frac{5y}{36}.$$

$$(2)\ \frac{68x}{7}-\frac{7}{x}=8x+11.$$

3. Find two consecutive numbers, such that the half and the fifth of the first taken together shall be equal to the third and the fourth of the second.

MENSURATION.

Find the side of an isosceles right-angled triangle whose area is the same as that of the triangle with sides 10, 11, 12.

ANSWERS TO MATHEMATICS.

ARITHMETIC.

CANDIDATES. *Males.*—(1) £253 1*s.* $4\frac{1}{2}$*d.* (2) £73 10*s.* (3) 48 days. (4) $12\frac{1}{2}$ miles. (5) 16 days. *Females.*—(1) £11 16*s.* 3*d.* + £8 0*s.* $10\frac{1}{2}$*d.* + £3 16*s.* 6*d.* + £2 15*s.* $8\frac{1}{4}$*d.* + £2 17*s.* 9*d.* + £1 19*s.* $4\frac{1}{2}$*d.* + £1 11*s.* 6*d.* + £1 11*s.* $10\frac{1}{2}$*d.* + £1 16*s.* 9*d.* = £36 6*s.* $6\frac{3}{4}$*d.* (2) £938486 11*s.* 9*d.* (3) £48538 5*s.* 3*d.* (4) £503 13*s.* $5\frac{1}{4}$*d.*

FIRST YEAR. *Males.*—(1) $1\frac{9}{25}$. (2) $\frac{11}{520}$. (3) 4·73; ·000473; 473000. (4) ·606; £1 2*s.* 6*d.* *Females.*—(1) 60 days. (2) £1674 4*s.* (3) 8 ac. 1 ro. 30 po. (4) 6*d.*

SECOND YEAR. *Males.*—(1) $4\frac{1}{2}$ per cent. (2) £181 3*s.* $1\frac{59}{125}$*d.* (3) £4760. (4) $7\frac{1}{2}$ per cent. (5) 400; 70; ·4; 26·6. *Females.*—(1) 2017790775. (2) $\frac{6392}{22}$. (3) $\frac{109}{1554}$. (4) $\frac{7}{675}$.

THIRD YEAR. *Males.*—(1) $11\frac{1}{2}$*d.* (2) 4 per cent. loss. (3) $99\frac{7}{8}$. (4) £38 17*s.* $9\frac{1}{3}$*d.* (5) A, £388; B, £582; C, £776. *Females.*—(1) 1549795·52. (2) ·04545. (3) 19*s.* $5\frac{1}{2}$*d.* (4) 13*s.* $7\frac{1}{2}$*d.* + 5*s.* + £1 17*s.* $9\frac{3}{4}$*d.* = £2 16*s.* $5\frac{1}{4}$*d.*

FOURTH YEAR. *Males.*—(1) £30. (2) £2250. (3) 13*s.* 6*d.* + £2 15*s.* − $3\frac{3}{4}$*d.* + $4\frac{1}{6}$*d.* = £3 8*s.* $6\frac{5}{12}$*d.*; ·6853472̇. (4) $4\frac{1}{2}$ per cent. (5) 50 per cent. *Females.*—(1) £450 17*s.* $3\frac{227}{320}$*d.* (2) $10\frac{5}{7}$ per cent. (3) 325 yds. (4) 300 men.

ALGEBRA.

THIRD YEAR.—(1) $3b^2$. (2) $x-2$. (3) 2.
FOURTH YEAR.—(1) $2\frac{2}{7}$. (2) $\frac{348}{15}$, $\frac{156}{157}$; 7, $-\frac{7}{12}$. (3) 5, 6.

MENSURATION.

10·15+.

Practical Department.

THE TOPICAL TEACHING OF HISTORY.*

BY JAMES L. HUGHES, TORONTO.

It is a cause of deep regret that so many pupils leave school believing that history is of little use except as a means of testing their memories, in order that bad marks or other punishments may be given for failing to remember. They are usually forced, by the method of treating this subject, to regard it as a confusing collection of dates, names, and events, related to each other only by chronology and the weak linking afforded by the names of rulers alike uninteresting, be they names of kings, emperors, presidents, or governors. Foreign and civil wars, commercial progress, the extension of the influence of the church, political intrigues, international diplomacy, constitutional growth, the development of the people, literary culture, and educational advancement may be found side by side in the sam echapter—utter strangers in everything but the accident of having occurred in the reign of the same sovereign. The same old kings who ruled the nations have continued to rule historical writers and teachers until recently; indeed, do still govern the vast body of teachers in their teaching of history. The constitutional, intellectual, and religious development of a nation are served up in scraps as carved by the various kings; great principles, and the mighty movement of true progress, are treated as secondary matters and tacked on as mere ornaments for the coats of successive sovereigns. The rulers with their whims, their physical, mental, and moral peculiarities, and their dates, are allowed to occupy the first place in most school histories, and the genuine work of the world is seen through the crevices between the kings. Events are fitted to the sovereigns, who should have a place in history only as they influenced events. This is a fundamental error in writing or teaching history. Dr. Arnold held that the record of the development of the "race institutions and religion" of a country constitutes its real history, and modern writers and thoughtful teachers are acting in accordance with this principle to a large extent.

A merchant who wishes to learn the results of his business transactions at the close of the year, and to satisfy himself as to the comparative importance of his various trade enterprises, and their relative influence on each other, might possibly do so by examining his day-book alone, but it would require the labor of months to accomplish what he could do in a few hours by consulting his ledger. Histories are usually merely day-books of the business of nations, and so students read them through and through without remembering clearly the events narrated, their causes, or their immediate or ultimate bearing on any of the departments of national life or progress. The continuous concentration of thought which is so essential in the formation of correct conclusions concerning the effects of national customs or tendencies, is impossible when the attention is distracted by the presentation of so great a variety of unconnected events to the mind. If these events were grouped in ledger form so that they could be taught topically, the student would save much time and be able to make more satisfactory progress. Instead of giving facts relating to all kinds of events promiscuously, as they occurred, and as they would be recorded in a diary, they should be classified under a few leading heads, and the consecutive history of each class during the period under consideration taught independently. The chief elements that go to form the life and true development of a nation should be selected, and the history of each element narrated without reference to the others, except in so far as it is directly related to them. The historical topics should vary slightly for different periods and nations, but the following will generally include all that are necessary: 1. External History, including foreign relationships and wars, the loss or extension of territory, etc.; 2. Constitutional Growth; 3. Religion; 4. Literature; 5. Social Development; 6. Commerce; 7. General Progress.

Before beginning the topical study of the history of a country in detail, it is essential to glance at its history as a whole, and subdivide it into periods by noting the great changes that have taken place during its growth. This may be done in a single lesson, and such a lesson will prove of great advantage to the pupils. It gives them a general idea of what they have to learn; it connects the present with the past in their minds; and, most important of all, it fixes in their memories a connected series of landmarks, about and between which they can readily group events as they become acquainted with them. This will greatly facilitate the learning and retention of the facts of history. It is much easier, and usually more important, to remember that an event occurred during a certain period than that it happened at a certain date. The mere date may be practically unsuggestive, while the association of the event with a certain historic period can scarcely fail to call to mind a series of related facts. The dates which bound the periods should be fixed, and thoroughly learned, and then events should be remembered as related to them. Different teachers may adopt various bases of division in deciding the number of periods into which to divide the history of a country, and the best basis for the history of one nation may be quite unsuited to that of another. It will usually be found best to make the dividing lines between the periods correspond with the dates which mark the great formative eras in a nation's history.

Having thus given a general sketch of the history of a country, and divided it into periods, the teacher is ready to proceed with the filling in of the necessary details. These should be few or many, according to the age of the pupils. Whether few or many however, they should be taught topically. The following are some of the reasons for recommending this course:

1. Events are more easily learned and remembered by this than by any other method. The ease with which impressions are made, and the length of time they remain fixed in the memory, depend chiefly upon the degree of attention given to a subject by the learner. When all conceivable kinds of historical events are re-

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corded on the same page, it is not possible for the reader to concentrate his attention on those having a special influence upon any particular department of historical study. If he is seeking for the causes which led to a great constitutional change, he should not have his attention distracted by anything which did not in some way affect the constitution. He will thus be able to fix his attention entirely on one subject at a time, and the certain result of such a course will be clearer conceptions and more permanent impressions.

In a subject like history, the successful study of which depends so largely on the memory, it is of the utmost importance that the laws of "simple suggestion," or "association of ideas," be taken advantage of to the fullest possible extent. The most important primary law of association of ideas is the law of resemblance or similarity. One fact will suggest another of a similar kind, and so a series of thoughts referring to the same subject will be recalled in the mind much more readily than if they related to dissimilar subjects. The application of this principle to the study of history is clear. In the topical arrangement of events, facts of a similar character, all leading to the same end, are learned in consecutive order, and will therefore be more easily remembered in accordance with this fundamental law of association through similarity. It may be urged that "contiguity of time" is also a law of suggestion, and that the fact that events occurred at the same time will serve to associate them in the mind, however much they may differ in character. It must be remembered, however, that "contiguity of time" refers only to the experience of the individual who tries to remember. If two important events occurred about the same time, both of which directly affected me, the remembrance of one of them will be pretty certain to recall the other to my memory. Even if these events had not directly affected me, but merely interested me, they would be likely to recall each other. This would not be the case, however, if the events had occurred before I was born. We remember events by "contiguity of time," not because they occurred at the same time, but because they affected us at, or nearly at, the same time.

2. The teaching of one department of the history of a country facilitates the teaching of every other department. The events immediately connected with any one of the topics into which the history may be divided will have a bearing more or less direct on some, if not all, the others. When the constitutional history has been studied it will be found that the history of the church, or of literature, or the social development of the people, during the same period, may easily be fitted to it. The teaching of each additional topic paves the way for the more easy learning of those which are to follow.

3. When one department of history has been taught, the teaching of each successive department reviews the work that has been done. The connection existing between the various topics compels this reviewing. It is done, too, in accordance with one of the most important, though most neglected, principles of the science of education; it is done incidentally. The portions already learned are reviewed, not as set lessons assigned for review, but in natural connection with the teaching of new work as a necessary part of that work. It will be conceded by all that reviewing is essential to fix facts in the memory. It must not be forgotten, however, that when reviewing is merely a repetition or re-teaching of a lesson already learned, it soon loses its interest. Pupils cease to give active attention to it because it has lost the charm of novelty. Facts previously learned should be impressed on the memory by being used as the basis for acquiring additional knowledge. The ploughshare of knowledge should be kept bright, not by frequent rubbing, but by constant use in turning over fresh soil. This is the highest kind of reviewing. It is the only kind to which a child is ever accustomed before it goes to school. This method of reviewing incidentally, not directly—by using knowledge, instead of merely repeating it—is only possible in the subject of history when it is taught by the topical method. Instead of traveling over the path of history once only in search of a promiscuous collection of facts, the pupil goes over it several times, each time with a specific object, and uses in each successive excursion the information acquired previously.

4. By teaching topically the teacher develops the reasoning powers of his pupils, and trains them to read history intelligently after they leave school. It is most desirable that students of history should be taught to trace causes to effects, and effects to causes. The facts of history are of little value as information merely; the lessons to be drawn from them constitute their real value. When teaching topically, events are not presented as of importance on their own account, but as elements which together produce certain results. The circumstances are regarded as subordinate to their consequences, and so the study not only exercises the memory, but calls into action the higher faculties. This naturally makes students take a deeper interest in the study of history as they grow older and their reasoning faculties develop, while it is a well-known fact that, as usually taught, the interest grows less as the pupils advance in years. This fact has led many thoughtful writers to question the propriety of teaching the subject at all in school. It is certainly most deplorable that the vast majority of pupils have such a distaste for the subject when they leave school that many of them never read an historical work afterwards. This cannot be the fault of the subject itself. It can only be due to the character of the school-histories, and the methods of teaching which are commonly practised. It is clearly impossible to give pupils a sufficient amount of historical knowledge during the time they are at school, and it is therefore of the highest importance that the method of teaching it should accomplish two results: 1. It should satisfy the growing demand for a higher kind of mental activity than the mere exercise of memory; 2. It should give a pupil a decided taste for historical study after he leaves school, and should qualify him for pursuing such a course in a systematic and intelligent manner. Both of these objects are accomplished by the topical method of teaching the subject.

There is nothing in the preceding remarks which is intended to express disapproval of any of the excellent "Child's Histories," which are written in interesting narrative form, and are so well calculated to attract the attention of the young. The object has been to show that a taste for such narratives decreases rapidly as pupils grow older; that the "mere tissue of names and dates, and dead, unmeaning events," soon becomes wearisome, if the names, dates, and events have to be memorized; and that a more intelligent method of presenting the subject should be adopted by teachers and those who write school-histories.

THE PUBLIC SCHOOLS AND THE PUBLIC HEALTH.*

The work of Sanitary Science in the prevention and removal of disease is very nearly allied to the great scheme of human salvation —in fact may justly be regarded as a part of the work of the Gospel, and of the mission of Jesus Christ to earth. Men miss very much of the scope and meaning of the Christian religion who limit its operations to purely spiritual concerns, and relegate its practical benefits to the life to come. In all ages there have been multitudes

* An address given at the Provincia oard of Health, St. Thomas, by Rev. Prof. Austin, of Alma College.

of men so carried away with the superior importance of the spiritual life as to be unmindful of the claims of this fearfully and wonderfully constructed temple we call the human body. Some have even claimed to derive sanction for such views from the religion of Jesus Christ. But where, it may be asked, in the teachings of the Son of God are men taught to ignore the body or the present life? Surely not in His precepts, for He taught men that their bodies were temples of the Holy Ghost, constantly guarded by Divine Providence, and hence worthy of the best human attention. Surely in Christ's miracles He does not ignore the body or the natural life, for He heals it of every malady. and thus earns for himself the title of the Great Physician. Indeed, one distinguishing feature of Christ's teaching is its perfect adaptability to the physical relationships of life as well as to the spiritual, so that His followers have promise of the present life as well as that to come. So high is the estimate Christianity puts on the physical nature and the present life, that wherever it obtains, the various sciences that cluster around the human body rise up spontaneously into importance and dignity. Contrast, if you will, the medical science of the Indians or the Chinese with the progressive, critical, and far-reaching medical sciences of Christian lands.

The point I wish to make clear is this: Christianity is eminently practical, and its precepts should be applied to the body as well as to the soul, to the present life as well as to the future, and hence sanitary science and sanitary reform have special claims upon all Christian people, deserving not merely their endorsement and sympathy, but their active co-operation. And that there is urgent need of active and general co-operation in the great work on the part of all good citizens who can doubt? The people perish to-day as of old for lack of knowledge. Men sicken and suffer and die all around us, not because the course of nature is complete, but because they know not the laws of their own being—the very A B C of practical education. Men die, not because of old age, but because they know not how to escape the shafts of death shot at them out of impure air, or the poison of impure food or drink, and because they know not when sick how to apply the simple and effectual remedies of nature about them. Knowledge costs both time and money; ignorance costs both time and money and life itself.

Who can contemplate the constant ravages of disease in the destruction of the physical powers, the blighting of promising lives, the blasting of human hopes, and reflect that in the vast majority of cases these ravages are preventible and unnecessary, without an earnest desire to combat and destroy it? The evidence of the urgent need of this movement in the way of sanitary reform is patent to the sense of sight and the sense of smell on every hand, while the fearful destruction of life wrought by zymotic diseases is well known to all who have investigated. Now, to whom are we to look as the leaders of this sanitary reform—as the educators of the people in sanitary science? What class of society is best calculated to arrest and fix public attention upon the great evils being suffered at present, and to banish the dense ignorance on matters of health and disease that prevails so alarmingly in society? Our minds naturally turn to the physician, whose whole life is supposed to be devoted to scientific research and conflict with disease and death. He, from his very position among men, is the natural instructor of society on sanitary matters. From his knowledge and experience, from his wide range of acquaintance and influence, from his direct intercourse with the sick and suffering, he derives invaluable opportunities of imparting that instruction with which the health and happiness of the people are so intimately associated. And there can be no question that society in general experiences the benefit of a great deal of private and gratuitous instruction that aids materially in keeping down the ravages of zymotic diseases and increasing the average of public health. But while giving physicians their due credit, it may justly be doubted if they can ever be the chief, much less the sole agents, in this work of sanitary education and reform. Some of their number are as little interested in matters regarding public health as those who know less of the sufferings and needs of society. Many of the most talented are worn out with professional duties, and all of them from the very exigencies of the case have to restrict their work chiefly to the healing of the sick, and leave the work of instruction and warning of the masses to other hands. The minister of the Gospel, as the follower of Him who went about doing good to the bodies as well as the souls of men, ought to accomplish much in the education of the public on matters of health and good living. Too often the teaching of the pulpit has been largely occupied with controverted points of theology to the neglect of practical teaching regarding the every day life. Could not many a sermon on disputed points of doctrine, alike above both preacher and people, be omitted with advantage in favor of instruction on the practical Christianity of better living? Ministers themselves are partially responsible for the idea which is altogether too prevalent that religion consists in church attendance, song, prayer, and collections. People should be taught that to live according to the laws of God written within us, to enjoy good health and promote it, to have a healthful home and preserve it such—that these are an important part of religion. Men ought to be taught by the pulpit that he who knowingly violates the laws of nature is a sinner in need of Divine pardon. They must come to understand—and I think it the business of the pulpit to cause them to understand—that the laws of nature written on their being are the laws of God, and just as binding on the heart and conscience as if written on the inspired page. I would not secularize the pulpit—I would not detract one iota from the amount of teaching on matters purely spiritual, yet I would vote heartily for the introduction of plain and pointed application of Gospel truth to the every day life of the people—even if some powerful and eloquent and ponderous and learned discourses on controversial theology had to be omitted. Yet ministers, with their multiplied labours, can be helpers only and not leaders in this work of sanitary reform. To whom then can we look as the principal agents in this work? Our answer is to the teachers of our youth. They deal with the most important class to reach. Instruction imparted by them in the Public Schools would have a whole lifetime in which to bring forth its fruits. What then, it may be asked, can the Public Schools do for the public health?

1. The Public Schools of our land ought to be utilized to the promotion of greater physical vigor among the youth of both sexes. A robust constitution easily throws off ordinary attacks of disease which cause the weak and frail to succumb. What is required first of all in the battle with disease and death is a higher type of physical manhood. This, it appears to me, is best secured by instruction and training in the schools. And for this purpose I would devote a fixed part of school hours daily. An hour of physical exercise directed by a skilful teacher who knows how to make it at once enjoyable and beneficial would only increase the zest and ability of the pupils for intellectual pursuits. Let it not be imagined for a moment that the ordinary voluntary school sports will answer this purpose of physical development. The boys who take the rough and hearty exercise at school are as a rule the ones who need it least; the weak-chested, flabby-muscled lads are the ones who lounge about with marbles and other profitless games. These are the very ones who need most the stir and excitement of more daring sports. If a lad comes to school physically weak, the course of instruction and training laid out for him should aim at giving him

better muscle, purer and stronger blood, and more digestive power. Why should not a defective muscle be toned up by regular exercise as well as a defective faculty of the mind? That such regular physical training would result in a higher type of physical manhood, in a greater ability for intellectual pursuits, and in a higher average of public health we have the best evidences. Dr. Jaeger, whose recent investigations on the influence of exercise and clothing on health has created considerable stir in Germany and Switzerland, found that school children who went through a regular course of gymnastics had 40 per cent. less absences (through illness) charged against them than those who did not. In another gymnasium the difference was 18 per cent. in favour of those taking regular exercise. In a girls' school where gymnastic exercises were regularly given the absences were almost *nil*. Dr. Jaeger also found that soldiers in the third year of their service had a much higher specific weight than those in the first year. The mortality among third-year soldiers was 36 per cent. less than among the second-year men, and among the latter the mortality was 34 per cent. less than among the new recruits. Still more significant is the fact that the deaths of the older soldiers from typhoid and kindred diseases were relatively fewer than among recruits and the second year men. He ascribes these results to gymnastics and drill. Exercise, he says, by draining the body of its superfluous moisture hardens the flesh, and hard flesh is sounder than soft flesh.

2. The Public Schools can do much for the public health by prescribing and imparting thorough instruction on Hygiene and the kindred branches of Physiology and Chemistry upon which it is founded. Even an elementary knowledge of these subjects would fix the attention of the pupils on the subjects of health, and the need of care and discrimination in regard to labor and rest, eating and drinking, temperance, and the preservation of vital force, which wonld in itself be a great point gained. Such a course of gymnastic training and instruction as I have advocated would, of course, necessitate on the part of the teacher a knowledge of the subjects taught, but not a greater knowledge than every well-informed man should have of the nature and needs of the great and complicated machine we call the human body. The great objection to both the instruction and training I advocate—if, indeed, objection there can be—will, of course, be the crowded state of our school curriculum at present and the consequent lack of time. The Public School, says the objector, is for intellectual culture alone, and not for physical, and as it is more important to cultivate memory than muscle, and there is not time for both, gymnastics and hygiene must be abandoned. Grant, if you will, that the intellectual training is the more important, it does not follow that the physical is to be omitted; unless, indeed, it can be shown that the latter is incompatible with the former. The very reverse of this is the case. It may even be questioned if as much literary culture could not be given in five hours daily when an additional hour is given to systematic physical training, as in six hours daily spent exclusively at intellectual pursuits.

But even should it be shown that something now on the school programme would have to be omitted, we do not think this should prove an insuperable objection to the introduction of the instruction and training desired. The branches of the great tree of knowledge have so multiplied in this day of scientific research that an eclectic course of study is a necessity, and the demand of the age is for the practical as distinguished from the theoretical and ornamental. Now what could be more directly and universally practical than the great laws that govern us in our physical relationships and the rules that should govern us in every day life? If, then, a selection must be made, why not take the most intensely practical subjects? For of what use, so far as this life is concerned, is culturing so highly the mind if the body is too weak to bear the strain and pressure of life's battles? Of what use garnishing the jewels till their resplendent lustre dazzles all beholders, if both casket and jewels so soon are to be thrown into the pit? Why be so anxious to increase the size and value of the cargo, if the vessel is so poorly built that the storms will surely wreck her in mid-ocean? Now we are very much mistaken if this instruction and training for which we plead is not really more practical and important in every day life than some of the subjects usually found in the curriculum of the school. Let us take for example ancient history. Outside the professional walks in life, of what practical value is the amount of ancient history usually received at school? Leaving out of consideration the mixture of myth and mystery, of truth and fable, of error and exaggeration usually found on the historic page, can anyone for a moment doubt that Hygiene and Physiology would be of more practical use to nine-tenths of our pupils than this branch of study? The very many questions which ancient history presents for our study and investigation may be interesting enough to the historian and pleasant enough as a pastime, but to us in this practical age are not of as pressing importance as more recent problems. Whether Thebes had 100 gates, whether Romulus did really found Rome, whether Alexander untied or cut the Gordian knot, whether the vision of Constantine was an illusion or a reality, may have been burning questions in the early ages, but after a lapse of a few thousand years they have lost something of their freshness and interest, and hardly arouse as much enthusiasm in St. Thomas as the burning question of the great sewer.

The great problem is how to live best in our day, and for the answer of this problem a man must have some knowledge of the wonderful mechanism of his own body. Now the study of ancient history—and we merely use this subject as an illustration—to the neglect of a knowledge of the human body, its laws and its needs, is about as wise as the study of astronomy would be to the engineer to the neglect of the science of engineering. Go to him and urge him to lay aside the science of engineering for the delightful study of the stars, and he replies, "Why, sirs, other sciences may be useful and pleasant, but to me engineering is an essential branch of knowledge. Of what use for me a knowledge of the constellations if I don't know my own work? What benefit to me if I could name every star if I run my engine off the track or explode it?" Hygiene and Physiology are as practically important to every man as engineering to the engineer. What is wanted in this sanitary reform is some system at once general and efficient for the indoctrination of the people in health matters, and this system, it appears to me, can only be carried out by the agency of the Public Schools. Instruction and training there given would reach the most important class to be reached, viz., the youth; would be at once general and efficient, and would come home to the minds and hearts of the public with the sanction of the powers that be, and an authority such as no private efforts, however well directed, could possess.

Lives of great men all remind us
We can make our lives sublime,
And departing, leave behind us
Foot-prints on the sands of time.

We can never be too careful
What seeds our hands may sow.
Love from love is sure to ripen,
Hate from hate is sure to grow.

Sixty seconds make a minute;
Use them well and you will win it.
Sixty minutes make an hour;
Use them well while in your power.

Promotion Examinations.

CO. OF HALDIMAND, APRIL 5TH AND 6TH, 1883.

HISTORY.

CLASS IV. TO V.

1. Give a short account of the reign of Alfred the "Great."
2. Give a list of the Plantagenet sovereigns, and the date when each commenced to reign.
3. Give a short account of the reign of Henry II.
4. What is meant by the "Commonwealth,' and explain how it came to be established in England?
5. Describe the conquest of Wales by Edward I.
6. What gave rise to the Wars of the Roses? Petition of Rights? Habeas Corpus Act? Magna Charta?
7. Write brief notes on Duke of Wellington, Lord Nelson, and Sir Garnet Wolseley.
8. For what length of time are Members of Dominion Parliament elected? Members of the Provincial Legislatures? Members of the Senate of the Dominion?
9. Who hold the following offices: Prime Minister of England? Prime Minister of Canada? Prime Minister of Ontario? Governor-General of the Dominion of Canada? Lieutenant-Governor of Ontario?

SPELLING AND DICTATION.

CLASS IV. TO V.

1. The insatiable desires of the incendiary criminals were incredible.
2. He pursued the fugitives through the interminable forest.
3. The Michigan volunteers received a magnanimous compliment.
4. Those foreign auxiliaries were guilty of a gross breach of etiquette.
5. The principles of the feudal system were condemned by Parliament.
6. By orders of the Government, the committee published a catalogue of books for the use of the Lieutenant-Colonel.
7. The reconnoitring party defended themselves with their umbrellas.
8. His unsociable companion proffered him aid on arriving within the precincts of the emporium.
9. The ceremonies were performed with impressive grandeur.
10. These pitchers are the sepulchres of an innumerable number of gnats.

GEOGRAPHY.

CLASS IV. TO V.

1. What are zones? Give their boundaries and the width of each in degrees.
2. Name the chief divisions of North America, and give the boundaries of each.
3. Names the States bordering on the lakes between Canada and the United States, and mention one city in each State.
4. In taking a coast voyage from Halifax to the mouth of the Rio Grande River; name the capes, bays, peninsulas, islands, cities, and river mouths you would pass.
5. Through what countries do the following rivers flow, in what countries do they take their rise, and where do they empty their waters: St. Lawrence, Mississippi, Red, St. John, Danube, Rhine, Amazon, Vistula, Niger, and Ganges?
6. Name the British colonies in America and Europe.
7. Where and what are the following: Portland, Verte, Perth, Belgrade, Otranto, Kertch, Corea, Maldive, Melbourne, Carpentaria?

GRAMMAR AND COMPOSITION.

CLASS IV. TO V.

"ERE IN the northern gale
The SUMMER tresses of the trees ARE GONE,
The WOODS of autumn, ALL AROUND OUR VALE,
HAVE PUT their glory ON.
The mountains THAT UNFOLD,
IN their wide SWEEP, the COLORED LANDSCAPE ROUND,
SEEM GROUPS of giant kings in purple and GOLD,
That guard the enchanted ground."

1. Write out each proposition of the above extract separately, and tell its kind and relation.
2. Fully analyze the last stanza.
3. Parse the words in small capitals.
4. Parse the phrases as if they were single words.
5. "That" may be three different parts of speech. Write three sentences, each containing it, which will show this.
6. Give the meaning of "northern gale," "summer tresses of the trees," "the woods of autumn have put their glory on," "colored landscape," "enchanted ground."
7. Change the extract into prose.
8. What is the difference between "object" and "objective case"? In how many ways may nouns be in the objective case? Give an example of each way.
9. Give the past tense and past participle of grow, glow, weave, seethe, and dye.
10. Correct anything wrong in the following, and give your reasons in each case:
    (*a*) Who learned you grammar?
    (*b*) Whom do they say that I am?
    (*c*) He won't let him do nothing.
    (*d*) He showed him his two hands.
    (*e*) He rode to town and drove twelve cows on horseback.
    (*f*) The book is laying on the table.

ARITHMETIC.

CLASS IV. TO V.

1. How does simple division differ from compound division? Show that division is a particular case of subtraction.
2. If 15 times the remainder be added to the quotient, the result is 2082; but if 19 times the remainder be added to the quotient, the result is 2550. The dividend is 287,656,458, find the divisor.
3. Reduce 23,048,771 square inches to acres, roods, &c.
4. Reduce 12 lbs., 8 oz., 4 drs. avoirdupois to lbs., oz., grs. troy.
5. Reduce the difference between 5 acres and 4 acres, 3 roods, 39 per., 30 yds., 8 ft., 11 in. to the fraction of a rood.
6. *A* and *B* are 48 miles, 6 fur., 3 per., 1 ft., 3 in. apart. *A* sets out towards *B* at 8.45 a.m., and 3 hours later *B* sets out towards *A*; they meet at 4.45 p.m., *A* having gone over 17 miles, 3 fur., 32 per., 5 yds., 2 ft., 9 in. more ground than *B*. How far did each travel, and at what rate per hour?
7. *A* and *B* earn together the same sum of money in 22½ days which *A* alone earns in 38 4-7 days. In how many days can *B* alone earn this sum?
8. If the 8 cent loaf weighs 1 lb., 11 oz., 12 drs. when wheat is $1.80 a bushel, what ought the 12 cent loaf to weigh when wheat is $1.26 a bushel?
9. A farmer sold 34 bushels of corn and 56 bushels of barley for $63.10, receiving 35 cents a bushel more for the barley than the corn; what was the price of each per bushel?

GEOGRAPHY.

CLASS II. TO III.

1. What is a river? a sea? a gulf? a strait? a continent? a peninsula? a valley? a canal? a cape? an ocean? Give an example of each.
2. What townships of the county of Haldimand touch the Grand River?
3. What counties touch the county of Haldimand on the north, east, and west?
4. Name the Provinces of the Dominion of Canada. In which one do you live? What is its capital?
5. What river drains Lake Ontario? What river connects Lake Erie with Lake Ontario?
6. What railroads enter the following places: Caledonia, Dunnville, Jarvis, Cayuga, Hagersville?

SPELLING AND DICTATION.

CLASS II. TO III.

1. He crept slyly up to the victim of his guile.
2. The doctor caught a dreadful fever.

3. I see signs of the crocuses coming up.
4. The thirsty crow flew to a pitcher, hoping to find water.
5. She bought sugar plums, carraway comfits, and some new music.
6. The giant, clothed in complete armor, challenged the men of Israel.
7. The boys separated and went on their errands.
8. He at first demurred, then acceded to the proposal.
9. The thievish and merciless urchins threatened the travellers.
10. The bears, after committing great havoc, quite leisurely walked away.

ARITHMETIC.

CLASS II. TO III.

1. Write in figures twenty thousand, two hundred and twenty; one hundred and one millions, one hundred thousand and ten; five hundred and three thousand, three hundred and five.
2. Write out in words 200202; 2020020; 20002200.
3. Express the value of 2061 — 2002 + 907 — 389 + 97 — 176 + 9 + 492 in Roman notation.
4. Find the difference between 80010107 and 70011008.
5. Multiply 879635 by 890070, and divide the result by 96 by factors.
6. There are two numbers of which the product is 373625, and the greater number is 875; find the sum of the two numbers.
7. What must the number be which divided by 453 will give the quotient 307 and the remainder 109?
8. How many lbs. of sugar at 12 cents per lb. must be given for 5 pieces of cotton cloth containing 44 yds. each at 18 cents a yard?
9. A horse worth $120 and 4 cows at $28 each were exchanged for 31 sheep and $46 in money. What were the sheep valued at per head?
10. A merchant bought 4 pieces of cloth, of equal lengths, at $5 per yard; he gained $45 on the whole cost by selling three of the pieces for $485. How many yards in each piece?

GEOGRAPHY.

CLASS III. TO IV.

1. Define continent, isthmus, plateau, delta, port, roadstead, estuary, tide, river, colony.
2. Give the boundaries of the Dominion of Canada, also the names of the Provinces of which it is composed, with capital of each.
3. What rivers drain the following lakes: Great Slave, Winnipeg, Superior, St. John, Champlain?
4. In taking a coast voyage from Halifax to the mouth of the Rio Grande River, name the capes, bays, peninsulas, islands, cities, and river mouths you would pass.
5. What railroads enter the following cities: Ottawa, Toronto, Hamilton, London, Brantford?
6. Name the countries of South America, and give the capital of each.
7. Where and what are the following: Miramichi, New Orleans, Chaleur, Rideau, Quinte, Carleton, Perth, Amherst, Allumette, Mackinaw?

GRAMMAR.

CLASS III. TO IV.

1. Divide the following sentences into subject and predicate:
   (a) With her mother's scissors, she snipped off ribbon enough for an apron.
   (b) Two of us in the churchyard lie,
   Beneath the churchyard tree.
   (c) Had he lost a front tooth?
   (d) There was now a line of rope between the shore and the rock.
   (e) In the Saskatchewan, the chief food, both of white men and Indians, is buffalo meat.
2. Parse: Just as I put my head up the hatchway, the sheet of one of the sails knocked my hat off.
3. Write sentences containing:
   (a) The subject modified by an adjectival phrase.
   (b) The predicate modified by an adverbial phrase.
   (c) The verb completed by an object, modified by an adjective.
   (d) The verb completed by a predicate nominative.
   (e) A verb in the passive voice.
4. Correct the following sentences, and give reasons where you can:
   (a) I ain't going to school no more.
   (b) She is older than me.
   (c) I seen her through the window.
   (d) Is that pencil laying on the desk?
   (e) Have you went to school to-day?
   (f) Her and me are going to study grammar.
5. Define gender, case, number, verb, inflection.
6. What are the inflections of the pronoun, verb, and adverb?
7. Compare the following adjectives: many, ill, proper, near, well.

SPELLING AND DICTATION.

CLASS III. TO IV.

1. The narrow escape of the pilgrim was quite miraculous.
2. It is impossible to drive along these impassable roads.
3. His pockets were invariably filled with unpalatable and nauseous fruit.
4. He was unconscious of being so near the muzzle of that double-barrelled gun.
5. During the month of February the precipice was completely covered with ice.
6. The sugar was melted down to the consistence of syrup.
7. The grandeur of the scene is quite impressive.
8. The captain's language was unintelligible to a foreigner.
9. He believes the buffalo is untamable.
10. Evidently the bear was coming slowly and lazily along.

ARITHMETIC.

CLASS III. TO IV.

1. Write in words 203050006000404, and in figures six billions, twenty millions, and fifty.
2. Divide 2959990965442 by 9864302, and express your quotient in Roman notation.
3. Express in words and figures how much greater the value of one 5 is than the other in the number 459,356.
4. Find a number such that if it be subtracted 45 times from 97693, the remainder will be 43.
5. *A* bought $19 worth of coal, at $7 per ton. *B* bought $17 worth, at $6 per ton; how many lbs. of coal did one get more than the other?
6. If a man takes 36 inches at a step, a woman 24, and a boy 18, how many times will the three step together in walking 5 miles, supposing all three start together?
7. How many times oftener will a wheel 15 feet in circumference revolve in going three miles than one 22 feet in circumference?
8. Find the amount of the following bill of farm produce:
   2300 lbs. of hay, at $8.50 per ton.
   43 bush., 24 lbs. wheat, at $1.15 per bush.
   3126 lbs. oats, at 51 cents per bush.
   2829 lbs. clover seed, at $6.21 a bushel.
9. Find the sum, difference, product, and quotient of $(3\frac{1}{8}-2\frac{1}{3})$ and $(2\frac{3}{4}+3\frac{1}{6})$.

Notes and News.

ONTARIO.

Mr. S. D. Barton, formerly assistant in Weston high school, and lately assistant in Bradford high school, has accepted a position on the staff of the Collegiate institute, Barrie.

Bolton public schools have made rapid strides in advance since the appointment of Mr. R. W. Hicks as principal. Several pupils are preparing for entrance examination; the upper classes have made considerable proficiency in drawing; and vocal music, in theory and practice, is a strong and enjoyable feature. Complete order and intelligent discipline are observable in all the rooms. Mr. Hicks is well assisted by Miss Brownlee and Miss Fyfe.

Mr. S. S. McCormack, the respected head master of Orangeville public school, has been suffering from a severe cold, and, for a fortnight, was compelled to retire from school work. We are pleased to know that he is now quite recovered and able to resume his accustomed duties.

Mr. W. H. Bingham has been appointed junior mathematical master in Orangeville high school. He also takes junior English and science. Mr. J. E. Lynn (undergraduate Tor. Univ.), late principal of Port Elgin Academy, teaches classics and German. The head master, Alex. Steele, M.A., takes senior English and mathematics, and the improved condition of the school as regards attendance testifies to his high and well-earned reputation as a successful teacher.

Flesherton public school is in a very prosperous condition under the efficient principalship of Mr. M. P. McMaster. Elementary chemistry is taught, and the specimens of industrial drawing which were exhibited were highly creditable. Three pupils are preparing for the intermediate examination and several for entrance. Mr. McMaster's ability as a teacher is fully appreciated by the trustees, who have, for the five years that he is with them, advanced his salary annually without solicitation. No better testimony to the worth of a teacher could be given. In the junior department of the school Miss Hopkins is also giving much satisfaction.

Prof. Croft, Professor of Chemistry of Toronto University for many years, whose name is familiar to almost everybody, died at Texas on the 28th February last, after a short illness. He was 64 years of age.

The Lakefield public school opened after the Easter holidays, under the mastership of Mr. F. A. August, the 'new master.' Mr. August has a Second Class, Grade A, Normal School certificate, and also a first-class Provincial certificate of qualification, and he comes to Lakefield with unexceptionable recommendations as a practical teacher. He is said to have been the best teacher in the county of Dufferin, where he taught for some years. Mr. August has created a very favourable impression upon those whom he has come in contact with so far.—*Peterborough Review.*

The Belleville school board pays $1,100 per month for teachers.

During the temporary illness of Mr. S. S. McCormack, head master of Orangeville model school, his class was under the care of Mr. N. Gordon, inspector of schools for Dufferin county. Mr. Gordon was at the same time inspecting the school, and, while examining any class in the other departments, he sent the teacher of that class to the principal's room as his substitute. It is gratifying to see an inspector whose heart is so earnestly in his work, and who can sympathise so warmly and practically with the teachers when they are afflicted.

The work carried on in Arthur public school, under the experienced and effective management of Mr. A. Macpherson, principal, is of the most substantial nature; the attendance is large, especially in the junior departments. The head master has the valuable assistance of the Misses N. E. Campbell, J. Foote, and McTaggart.

The work carried on in the separate school, Arthur, is extremely creditable. Under the wise and careful tuition of the two Sisters who are at present in charge the attendance is increasing, and the trustees are about to build another room. At the last entrance examination several pupils passed. Among these were two young ladies, Miss O'Donnell and Miss Centwell, who entered the high school at Mount Forest; Miss Landy, who is attending Toronto collegiate institute; Miss Carroll, at Walkerton high school, and Miss Halley, at Elora high school.

CANADA SCHOOL JOURNAL.—We are in receipt of the February number of this very instructive journal, which contains a vast amount of useful information. The JOURNAL should be in the hands of every teacher.—*Exchange.*

A man was obliged to pay $11.50, fine and costs, for abusive language to the teacher of S.S. No. 5, Blandford, and for interfering with the order of the school. He is not likely to misconduct himself when he goes school visiting next time.

J. A. Houston, M.A., recently English master, London High School, has been appointed head master of the Collegiate Institute, Portage La Prairie. Mr. Houston was one of the best teachers in the province, his reputation as a teacher of English being equalled by few. We have no doubt Mr. H. will prove himself worthy of the new position.

The public school children of Kingston are arranging for a day's sports and games for 24th May. It will be the first day's games they have had in four years.

The schools of Bobcaygeon have been closed for a time, in consequence of the prevalence of measles.

The salary of Mr. Milner, of London collegiate institute, has been increased to $1,000,

The Goderich school board have increased the salary of H. I. Strang, M.A., head master of the high school, to $1,200.

Brampton high school, under the management of A. Murray, M.A., is keeping well to the front. The fifth regular meeting of the literary society in connection with the school was a decided success. We regret space does not permit giving particulars.

The boys attending Belleville high school have developed an *esprit du militaire* which has led to their being formed into a company of cadets in connection with the 49th Battalion. If the board of education will not develop an *esprit de l'economie*, but will furnish the youthful sons of Mars with a suitable equipment, the boys will turn out with the regiment in review next Queen's birthday. Cannot other high schools follow the example set by the Belleville boys?

Since the appointment of Mr. J. McDonald to the head mastership of Priceville public schools, much satisfaction is expressed at the progress made. Mr. McDonald has made several excellent improvements in school matters.

Mr. W. P. Rundle, the principal of Dunkalk public school, is doing such a good work that the school trustees are about to build a new school-house where he will have more scope for his indefatigable labor. Miss Harris, one of the many pupils who reflect credit on Richmond Hill high school, makes an excellent assistant.

C. J. McCabe, B.A., has a well attended school in Durham. A large class is preparing for entrance examination. The teaching staff is too small for the number attending. Miss McArthur having over 80 in the primary department; Miss Butters' class is also too large for one teacher.

Shelburne public schools, under the efficient management of Mr. R. L. Mortimer with the competent assistance of Miss Elliot, is increasing in attendance to such an extent that the school trustees are about to add another room and engage a third teacher.

The intermediate class in Mount Forest high school, of which Mr. J. Reid is head master, numbers about 50. The reputation enjoyed by Mr. Reid as a successful teacher is attracting a rapidly increasing attendance. W. H. Wilkinson, B.A., B.Sc., takes mathematics and science, and A. M. Shields, B.A., takes modern languages. The attendance at present averages 84.

Dr. McLellan recently visited the Seaforth High School, and made a very satisfactory report. So says the *Huron Expositor.*

Hiram Robinson has occupied the position of chairman of the school board, Ottawa, for twelve years.

Miss Anderson and Miss Rothwell have recently been added to the staff of Ottawa teachers.

The salaries of lady teachers, Ottawa, have recently been increased. Those holding second class certificates, grade A, receive $400; those holding second class, grade B, $350.

Ottawa Normal School has 75 students in attendance.

Mr. Smith, B.A., Toronto, honor man in science and mathematics, has recently been appointed to the head mastership of Vankleek Hill High School.

120 students are in attendance at the Toronto Normal School.

Rumor has it that important changes will shortly be made in the staff in the Education Department.

A. Robinson, public school teacher, Wolfe Island, left for Dakota, to take up a new line of business, about the middle of April.

J. Shaw, B.A., has been engaged to fill the vacancy caused by the resignation of A. Robinson, Wolfe Island.

The Model School, Ottawa, under Mr. Parlow, the popular head master, is reported doing good work. There are now 450 pupils in attendance, with many applying who cannot secure accommodation.

It is pleasant to visit a model school that is a *model* school. Among those which deserve the title is that under the head mastership of Mr. S. B. Westervelt at Mount Forest. Perfect order, solid instruction, good appliances, well ventilated rooms, and a suitable building and grounds are its leading characteristics. Each room seems to be a reflex of the principal's, and an earnestness in the business of teaching and learning seems to pervade all the classes. Mrs. Jelley teaches the primary department, and the other assistants are the Misses Mitchell, Jelley, Kerr, Whelpley, and Mackenzie.

We are pleased to learn that Dr. Agnew, I.P.S., Frontenac, has greatly recovered his health, and is again able to be around. Mrs. Agnew and family leave for California shortly, on a trip for health, the Doctor remaining in the county.

Active work is being carried on by Mr. George W. Marsales in Clifford public school. Two pupils are preparing for the intermediate examination and some for entrance. In the junior departments Miss Kirk and Miss Catley are doing excellent work.

Last year Walkerton high school passed 30 out of 38 who went up for intermediate examination, namely, 5 A's, 22 B's, and 3 C's, although during the previous year there were but two teachers. Notwithstanding this thinning out, the average attendance now is 85, of whom about 40 are in the intermediate class. There are at present four teachers, viz.: J. Morgan, B.A., head master; J. H. Long, M.A., LL.D., late examiner in Toronto University, who takes modern languages; J. W. Mustard, B.A., science master; and Mr. D. McKay, mathematical master. Mr. Long is a barrister and attorney-at-law, having practised his profession for some years. He is also a gold medallist in modern languages.

The literary society in connection with Walkerton high school, which was formed last fall, now numbers about 120 members.

Walkerton model school continues to prosper under the effective management of Mr. W. R. Telford. A large number are preparing for entrance examination, and the pupils of this school are usually very successful. Mr. Telford's staff, consisting of Mr. C. A. Elliott and the Misses Robertson, Warren, Roether, Thornton, and Walker, are diligent and energetic teachers.

Mr. R. M. Munro, who was principal of Milverton public school, is now principal of the public school, Paisley. Since his appointment the attendance has largely increased; about 250 pupils being the average. In the primary department Miss McDonald is doing excellent work, and good progress is being made in the other rooms under the effective teaching of Miss Jelley and Miss McNaughton. Some nice specimens of freehand drawing, done by the pupils, are exhibibited on the black-board in Miss McNaughton's room.

Mr. Wellwood, the principal of Oakville High School, recently held a very successful entertainment. The proceeds were devoted to the purchase of a bust of the late Dr. Ryerson for the class-room. Mr. Wellwood has secured funds in a similar way for floral decorations for his class-room.

Special attention has been given to writing in primary classes in the schools of Halton under the inspection of Mr. Little, with the most satisfactory results. In many of the schools such progress has been made that the pupils in the first and second primers can write readily any words in the lessons from dictation.

A very successful entertainment was recently held in Waterdown High School, under the auspices of the literary society. An interesting programme was prepared, consisting of readings, &c. During the evening a debate was conducted by members of the society.

J. A. Tanner, B.A., Trinity College, late head master of Dufferin College, has been appointed head master of Streetsville High School.

Large additions to the model school building in Milton have been recently made, costing $3,000.

There is room for another teacher in the Teeswater public school, which is under the very efficient head mastership of Mr. H. H. McKague. Although he is well assisted by Miss M. Laing and Miss M. E. Sharpe, the increasing attendance is becoming too heavy for the present staff. The vacant room in the very fine school building might be occupied by another class with advantage.

When erecting their new school building the Harriston school board did not reckon on such a large attendance as is at present under the efficient head mastership of Mr. R. H. Hopkins. Two classes have to occupy an adjacent building, as the new one will not accommodate all the classes. Besides the head master there are five teachers, viz.: Mr. G. Waite, and the Misses Jones, A. Taylor, Arnold, and Mae Clapp.

There are eight teachers in Orangeville model and public schools, besides Mr. S. S. McCormack, the head master, namely, Messrs. A. McLinn, F. B. Denton, J. C. Reid, and the Misses M. Steele, C. West, and J. Anderson. The Misses Griesbach and M. West have charge of the auxiliary school.

Mr. James Harris, late teacher of Thornton's school, has been appointed principal of Rockwood public school.

The Government grant to the collegiate institute, St. Mary's, for the year 1882 amounted to $1,988.80, the largest ever received by that town in one year.

H. I. Strang, M.A., has announced his intention of giving an annual prize in the high school, Goderich, for the best public speaking. It will be known as the head master's prize. He will also offer a prize for the best essay, to be called the Preston prize, in memory of Mr. Strang's predecessor.

A teacher has recently been appointed to conduct classes in Mercer Reformatory and Central Prison. Mr. Pritchard has been the choice of the authorities.

The public school at Port Elgin, under the experienced management of Mr. T. Rankin, is second to none in the county. The system of instruction pursued therein has the effect of producing smart and intelligent answering in the various subjects. The subject of mental arithmetic receives marked attention, and the pupils are making rapid progress in it. Mr. Jas. McKinnon is first assistant, and is highly spoken of as an energetic teacher. The other assistants are the Misses Cairns, Jones, and Baird.

Mr. D. F. Ritchie has been head master of Southampton public school for the past eleven years, and has been singularly successful in his work. During that time about forty of his pupils entered the teaching profession. The attendance at present is about 150, several of whom are preparing for the entrance examination. The school building is a credit to the village. Mr. Ritchie is well assisted by Miss Janet Ross and Miss Mary Ross.

The attendance in Hanover public school is getting too large for the accommodation afforded by the building. There are only two rooms, and in each room are two teachers—or rather a teacher and a monitress. The principal, Mr. S. Neilly, is a very energetic teacher, and his assistant, Miss Pritchard, is highly spoken of for diligence and ability. A special class for industrial drawing has been formed, and a large number are preparing for entrance examination.

Mr. Robb, who was first assistant in Walkerton model school, accepted the head mastership of Chesley public schools at the commencement of this year. Since his appointment the attendance has increased, and the accommodation is insufficient for the number of pupils. The junior departments, which are under the tuition of the Misses Hicks and Howes, are quite overcrowded.

A larger and more suitable school building is becoming needful in Tara. The work carried on at present by Miss Gerolamy and Miss Crooks is very creditable, but it is considerably retarded by the restricted accommodation available. The seats and appliances are also unsuitable. We understand the trustees are going to make a move towards having matters more comfortable for teachers and pupils.

An entirely new and novel feature is being introduced into some of the schools in the west—the establishment of a system of trade and finance among the scholars. They are encouraged to earn money in every possible honest way, by doing work, or selling any marketable article, and have a bank for their own management. The object is to teach the value of money and the importance of thrift. The scholars take kindly to the scheme, and even manifest increased diligence in their other work, it is said. The question is, do children require to be taught the importance of money-making nowadays? There is a possibility of carrying this new idea too far, but a judicious teacher can give valuable suggestions to his pupils in matters of this description.

The Perth yearly promotion examination was held on Friday of last week, and passed off as satisfactorily as usual. It was at one time rumored that these examinations were to be discontinued, but we are pleased to see that this is not the case. They have done a great deal to raise the schools in this county to their present state of efficiency. No recent change has been so instrumental in creating uniformity and stimulating both teachers and scholars. It is no exaggeration to say that the mode of conducting these examinations here is second to none for system and thoroughness. They have been beneficial to the teacher also—that is the successful teacher. We hope they may be continued, and that the results may be as marked in the future as in the past.—*Exchange.*

In Brampton, James Fleming, Esq., M.P., chairman of the high school board, has generously offered for competition among the essay writers a prize, consisting of five handsome volumes of English poets; while A. F. Campbell, Esq., of the *Conservator*, honorary president of the High School Literary Society, with like liberality, offers $5 worth of books to the best speaker in the literary society speaking competition. Another prize is promised for the best hand-drawn maps of the hemispheres and the Dominion of Canada.

Christian Brothers' school, Kingston, have recently added a fourth teacher.

The grounds surrounding some of the school buildings in Kingston are in anything but an attractive condition. Those of Queen street school are particularly bad, although Mr. Godwin, the energetic teacher in charge, has evidently made an attempt to do the best he can with limited advantages.

In the rural school adjacent to the village of Tara, Miss Rogers is doing good work. Miss Rogers is an excellent, painstaking teacher, and we shall be glad to hear of her promotion, in the early future, to a larger and more important sphere of labor where her teaching power will have a better opportunity of development.

During the six years that Mr. H. W. Hicks has occupied the principalship of Invermay public school, he has succeeded in adding considerably to his reputation as an energetic, well-qualified teacher. In passing candidates for entrance examination he has been very successful. He is preparing a large class at present for the ensuing examination. The school building is too limited for the increased attendance.

The prosperous village of Wiarton is rapidly increasing its population, and in consequence, the school building is not large enough for the numbers of pupils. The school trustees have, therefore, rented another building for a class under the care of Miss Stahm. The head master, Mr. A. Kerr, has won the confidence of the trustees and inhabitants by his acknowledged ability and untiring zeal. He is well assisted by Miss Kirk, from Toronto, who brings with her the experience of the work carried on in that city.

The literary society connected with the St. Mary's collegiate institute recently gave one of their popular reunions, which was very favorably noticed by the local press. Such meetings do great good, both in the way of enlisting public interest and of benefitting the pupils by a sort of experience that must have a powerful educative influence.

We commend the following instructions issued to pupils at the recent promotion examinations by one of the ablest inspectors in the west, Mr. Alexander, Stratford. They will be found of great importance in the marking of the papers: The value of each answer is to be marked in the margin, and total value marked on the outside and copied into the report. Much, of necessity, must be left to the judgment of the examiners in determining the value of an answer, but the following hints may be found useful: 1. *Spelling*—The omission or addition of an unimportant word, letter, or capital letter should not be marked as an error. The intention of the paper is to test the pupil's ability to spell, not to "catch" at a trivial oversight. The examiner is expected to mark all real errors, but not to lay too much stress on an evidently unintentional omission which does not necessarily show inability to spell a word. *Mathematics*—Great stress should be laid on accuracy of work in these papers. A correct method of working a question should, however, be entitled to about half value, even should the answer be wrong on account of inaccuracy of work. *Grammar*—In marking the parsing and analysis considerable latitude should be allowed as to technical terms, and different schemes. *Geography*—Half a mark should be deducted for each error in spelling, including omission of capitals. Examiners will bear in mind that every teacher has the right to see the papers of his pupils when they are returned to the inspector; they will, therefore, be careful to so perform their work as to leave no grounds for complaint as to the fairness of the examination. The papers of each school are to be kept separate.

The late James Michie, of Toronto, willed $4,000 to Queen's University.

The high school at Orangeville has largely increased in numbers; the daily average attendance being about one hundred. For this number of pupils there are only two rooms, which are set apart in the public school building. In addition to the head master there are two teachers, and, therefore, two separate classes have to be assembled in one room, thus causing the greatest inconvenience and some confusion. In the meantime a disused church in the town has been rented by the School Board for the accommodation of about 150 public school pupils, and the attention of the head master of these schools is more distracted than if he had the whole school more immediately under his supervision. The deduction is obvious: the public school building should be enlarged and a new building of, say, four rooms at least should be erected for high school purposes. If this were done, as it is hoped it will be, the progressive town of Orangeville would be in a right position in educational matters; and, in the course of a few years, judging from present appearances, the high school may be promoted into a collegiate institute.

The tonic sol-fa system of sight singing was introduced some time since into the schools of London west. Messrs. Leslie, Lockey, and Macdonald have signified their intention of subscribing $5 each towards the expenses incurred. "Music hath charms."

The expenses of the educational establishments in Gananoque amount to $3,000 per annum.

Dr. C. W. Connon, M.A., LL.D., died in Hamilton a few days ago. The deceased was born in Aberdeen, Scotland, on the 9th April, 1815, and has occupied positions as principal of the Liverpool Mechanics' Institute, and chief master at the Government Naval School, Greenwich Hospital. In 1858 he accepted a position as English and classical master in Upper Canada College, where he remained till failing health in 1873 compelled him to retire, since which time he has been living with his son in Hamilton.

Mr. Dobson, who took charge of Picton high school some two years ago, has succeeded in keeping the school in a high state of efficiency. The average attendance is now 94, over 50 of these pupils coming from the county. Last year this school was successful in passing 23 pupils at Intermediate, and the prospects are that an equally creditable showing will be made this year. The principal is ably assisted by Mr. Schmidt, B.A., recently appointed classical master, with Miss Gillespie taking junior work. Mr. Dobson has offered a gold medal to all of his pupils attaining the standard of 2nd A certificate.

R. W. Murray, for the past two years principal of the model school, Picton, is reported as one of the most successful teachers in the east; his excellent discipline and thoroughness in his work are specially praised. The school board have shown their appreciation of his faithful services by increasing his salary at the beginning of the year.

G. D. Platt, B.A., the well-known inspector of schools, Prince Edward county, repeats the complaint made by many inspectors, of difficulties arising in the working of the 29th clause. One or two schools have been closed under its operations. The school-house having been burnt down, a number of the ratepayers who are non-residents, taking advantage of this clause in the School Act, refuse to have a new school building erected.

New school buildings have been erected in Picton by the separate school board. The schools have been for a number of years under the management of the two Misses Moran.

G. W. Kidd, the popular inspector of schools for the city of Kingston, has succeeded in collecting a very large and valuable assortment of minerals, which are kept in his office for the benefit of both teachers and pupils of the city schools.

J. C. Glashan has been appointed as one of the examiners of the Royal Military College. Mr. Glashan is well known as one of the ablest mathematicians in the country.

Mr. Wood, head master model school, Kingston, has finished his third year at Queen's University, taking a high stand at the examinations just closed. Last year he succeeded in securing a first class Provincial certificate. That Mr. Wood should be able to discharge so satisfactorily his duties as head master and at the same time pursue an extended course of studies successfully, bespeaks a brilliant future. We wish him continued success.

Kingston has lately appointed a teacher of drawing, Mr. C. H. Scott; also instructor of drill, Sergeant Lyndon.

The attendance at the schools in Kingston has been greatly reduced owing to the prevalence of measles, whooping-cough, &c.

Great complaint is made about inefficiency in writing of the pupils in Kingston schools. A few of the teachers, Mr. McGuirl and others, have tried to give special attention to the subject, but as yet results are not all that can be desired. The matter is likely to be taken up by the school board.

NOVA SCOTIA.

The announcement in last month's notes regarding a prospective law faculty in Dalhousie College was not premature. Such a faculty has been organized, and work will regularly begin in November next. It is proposed that the period of attendance upon lectures extend over three years, and that degrees in law be granted by the University. The following are the gentlemen who will compose the law faculty, with the subjects upon which they will respectively lecture:—Richard C. Weldon, M.A. (Mt. Allison), Ph.D. (Yale)—International and Constitutional Law. Hon. S. G. Rigby, Judge of the Supreme Court—Torts and Crimes. Hon. J. S. D. Thompson, Judge of the Supreme Court—Statute Law, Evidence and Procedure. James Thomson, Q.C.—Real Property and Conveyancing. Wallace Graham, A.M. (Acadia), Q.C.—Mercantile Law. Robert Sedgewick, B.A. (Dal.), Q.C.—Equity Jurisprudence. Benjamin Russell, M.A. (Mt. Allison)—Principles of Contracts.

Mr. Longley, M.P.P., presented to the legislature, at its recent session, a petition from the Archbishop of Halifax, the Bishop of Nova Scotia, and the President of Acadia College, claiming in behalf of St. Mary's, King's, and Acadia Colleges an annual grant of $400 in perpetuity, in virtue of an implied contract entered into between the legislature and those institutions in 1865, in connection with the wiping out of an old obligation of the governors of Dalhousie College. It is understood that the petition had the sympathy of the authorities of St. François Xavier College and Mt. Allison College, Sackville, N.B. The matter was referred to the Government, and no legislative action was taken thereon.

The annual session of the Teachers' Association for District No. 4 (Counties of Annapolis and Digby) was held at Digby, on the 26th and 27th of April. A full report of proceedings will appear next month.

Mr. Harrington's bill, entitled "An Act to secure better attendance at school," passed the Legislative Assembly by a large majority, and the Legislative Council without opposition. In the former body it was amended by the provision that a two-thirds vote of the ratepayers is necessary to bring the Act into operation in any school section.

One hundred and fifty-six pupils were registered in the Pictou Academy during the term ended April 30th. These pupils represented *thirteen* out of the eighteen counties of the Province, the Province of New Brunswick, and the Islands of Bermuda and St. Pierre Miquelon. The public examinations were held on the 12th and 13th of April. They were attended by the superintendent of education, the mayor of the town, and a large number of ladies and gentlemen interested in the prosperity of this justly celebrated academy. H. McInnis, Esq., lately principal of Sydney Academy, takes the classical professorship rendered vacant by the resignation of Inspector McLellan.

The governors of Dalhousie College have appointed Messrs. Campbell and Trueman to the tutorships lately established by Mr. Munro, both graduates of the class of 1882. The former gentleman takes the mathematical, the latter the classical, tutorship. The tutorships are each worth $1,000 per annum, and are tenable for two years. The *Dalhousie Gazette* epitomizes the college "record" as follows: Mr. Campbell—1st year: first Alumni Association prize; first class certificate of merit; first prizes in classics and mathematics; first class in Latin, Greek, and mathematics; second class in rhetoric. 2nd year: North British bursary; first class certificate of merit; prizes in mathematics and chemistry; first class in Latin, Greek, mathematics, chemistry, and Roman history. 3rd year: first class certificate of merit; prize in metaphysics; first class in Greek, metaphysics, French, and classical history. 4th year: Sir William Young's gold medal; B.A. honors of the second rank in mathematics and physics; prize in astronomy and optics; second class in Greek and French. Mr. Trueman—1st year: first Alumni Association prize; first class certificate of merit; first prizes in classics, rhetoric; professors' scholarship. 2nd year: second class certificate of merit; second prize in classics; first class in Latin and Greek; second class in mathematics, logic, chemistry, and Roman history. 3rd year: first class certificate of merit; prize in classics; first class in Latin, Greek, metaphysics, and French. 4th year: Governor-General's gold medal; B.A. honors of the second rank in classics; first class certificates of merit; prize in classics; first class in Latin, Greek, and French; second class in ethics and political economy.

It is reported that A. J. Denton, Esq., A.M., late principal of the County Academy, Kentville, has accepted an appointment, from the governors of Acadia College, in the interests of the endowment fund of that institution. Mr. Denton's retirement—which we trust is not a permanent one—from the ranks of the teaching profession will leave a vacancy not easily filled. He proved himself a most enthusiastic and successful teacher.

QUEBEC.

"The article in January number of SCHOOL JOURNAL on "Whispering," is worth the year's subscription to me."—Louis N. Thibaudeau, Rydal Bank, Quebec.

UNITED STATES.

"The missing numbers of the CANADA SCHOOL JOURNAL to March 1883, (inclusive) came duly to hand. Thanks! I have yet to see the school journal that excels it on this continent, and nine-tenths of the educational periodicals of the United States are not for a moment to be compared with it in depth or solidity of matter. I have most of the numbers from the beginning bound up."—George Harper, M.A., Anchorage, Buffalo county, Wisconsin, U.S.A.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

DUFFERIN.—The fourth semi-annual meeting of the Dufferin Teachers Association will be held in the Public School, in the village of Shelburne, Thursday and Friday, May 17 and 18, 1883. *Programme:*—1. Opening Address, R. L. Mortimer, president. 2. Appointing Committees on Finance and Arranging Subjects for next Association. 3. Changes in School Law affecting the Profession since 1878, N. Gordon, P.S.I. 4. Roll Call. 5. Vulgar Fractions, Wm. A. McLim. Critics, Miss Mary Ross, Messrs. Buchanan and Bowerman. 6. Writing, W. G. W. Ormerod. Critics, Mr. J. Maxwell, Miss Nelly Mitchell, Mr. A. Farr, and Miss Tiny G. Head. 7. Object Lesson, Miss F. Shain. Critics, Miss J. Holmes, Messrs. D. Reid and R. W. Rooney. 8. Librarian's Report. 9. Treasurer's Report. 10. Method—Reading Secs. 276 and 283 of Currie—Discussion; F. B. Denton in the chair. 11. Composition, J. J. Tilley, M.S.I. 12. How to Teach Least Common Multiple and G. C. M., Samuel Acheson. Critics, Mr. H. Campbell, Miss Elliott, and Mr. A. Sproule. 13. Question Drawer Opened. 14. Reading Minutes of Previous Meeting. 15. Temperance in School, A. L. McIntyre. Critics, Mr. F. B. Denton, Miss J. McNaughton, Miss G. McLean, and Miss M. A. Head. 16. How Discount and Commission should be Taught, Miss P. Alexander. Critics, Messrs. S. S. McCormack, R. L. Mortimer, D. Stewart, and Miss Pilkington. 17. Grammar, J. J. Tilley, M.S.I. Critics, Association. 18. Roll Call. 19. Value of Written Examinations, A. Steele, B.A. Critics, Messrs. J. C. Reid, Thos. Allan, J. J. Jordan, and Miss A. Lawson. 20. Relation between Religion and Education, Rev. Mr. Straith, of Shelburne. 21. Geography, J. J. Tilley, M.S.I. Critics, Association. 22. Spelling, Miss E. Lawson. Critics, Miss M. Steele, Miss M. Reid, Miss C. West, and Mr. G. C. Patterson. 23. How to Teach Railroads of Ontario, W. L. Mackenzie. Critics, Messrs. D. Macaulay, Wm. Jamieson, and R. Wellwood. On the evening of Thursday, the 17th May, J. J. Tilley, M.S.I., will give his popular lecture on "Education," in the Town Hall. Terms of membership, $1 per annum with CANADA SCHOOL JOURNAL, or 50 cents without the JOURNAL. Wm. A. McLim, sec.-treasurer, Orangeville, Ont.; R. L. Mortimer, president, Shelburne, Ont.

NORTHUMBERLAND.—The next regular semi-annual meeting of the Northumberland Teachers' Association will be held in the High School Building, Colborne, on Thursday and Friday, May 10th and 11th, 1883. PROGRAMME.—*Thursday:*—11:00 to 12:00—General Business. 1:30 to 1:40—Roll Call. 1:40 to 2:30—Uniform Promotions; Mr. D. Robertson. 2:30 to 3:30—Entrance Geography, with a Class; Mr. Geo. Kirk. 3:30 to 4:30—What should be Taught in Public Schools; Mr. J. E. Flewwelling. Lecture, Thursday evening, 8 o'clock; Rev. J. Bredin, Brighton; subject, "Public Opinion;" to take place in the Temperance Hall; admission free. *Friday:*—9:00 to 9:10—Roll Call. 9:10 to 10:00—Township *versus* County Association. 10:00 to 11:00—Percentage, with a Class; Mr. J. McColl. 11:00 to 12:00—Punctuality and Regularity of Attendance; Mr. G. Dowler. 1:30 to 2:30—Reading, with a Class; Mr. G. Cross. 2:30 to 3:00—Notation and Numeration, with a Class: Mr. W. McColl. 3:00 to 4:00—Mathematical Geography; Mr. H. M. Hicks, M.A. W. S. Ellis, B.A., B.Sc., president; D. E. Stephenson, secretary.

RENFREW.—A meeting of the Teachers' Association will be held in Arnprior High School, May 10 and 11, 1883. PROGRAMME.—*Thursday:*—9:00—Reading Minutes, &c. 10:30—President's Address. 11:00—How to Teach Spelling; N. S. Dunlop, Esq. 2:00—School Culture; H. L. Slack, M.A. 3:00—Remarks on Teaching in Public Schools; R. Geo. Scott, B.A., I.P.S. 4:00—Arithmetic; Charles McDowell, B.A., head master Renfrew high school. 8:00—Public Lecture; Prof. Dawson, head master Arnprior high school. *Friday:*—9:00—How to Teach History; L. C. Corbett, B.A. 10:00—Phrenology for Teachers; Wm. Alford, Esq. 11:00—Syntax; W. McKay, B.A., head master Renfrew model school. 2:00—How to Teach Reading; E. Odlum, M.A., head master Pembroke high school. 3:00 to 3:30—The Relation between High and Public Schools; Prof. Dawson. 3:30—Election of Officers. A. McKillop, B.A., president; A. D. Campbell, secretary.

ONTARIO.—The regular meeting of the Teachers' Association will be held in the High School Building, Port Perry, on Friday and Saturday, May 25th and 26th, 1883. PROGRAMME.—*Friday:*—10:00 to 11:00—Bible in the Schools; D. McBride, M.A., Port Perry. 11:00 to 12:00—Arithmetic; Mr. Noble, Uxbridge. 1:30 to 2:30—Physiology and Hygiene; W. F. Eastwood, M.D., Zephyr. 2:30 to 4:00—Teachers' Literary Outfit; G. H. Robinson, M.A., Whitby. 8:00—Lecture, in Town Hall, by J. L. Hughes, Esq., inspector city schools, Toronto; subject, "School Room Humour." *Saturday:*—9 to 9:30—School Discipline and Drawing; J. L. Hughes, Esq., Toronto. 10:30 to 12—Grammar; L. C. Smith, M.A., Oshawa. 1:30 to 3—Principles of Symmetry; J. J. McGee, B.A., Uxbridge. G. H. Robinson, M.A., President; A. G. Henderson, Sec.-Treas.

OXFORD.—The eleventh session of the Oxford Teachers' Association will be held on Thursday and Friday, May 10th and 11th, 1883, in the High School, Woodstock. *Thursday:*—9:00, Business. 9:30 to 10—President's Address. 10 to 10:45—Writing; Mr. Westervelt, Woodstock College. 10:55 to 11:15—Æsthetics; Mr. Bryden, B.A., H. S., Ingersoll. 11:15 to 12—Poetry and General Reading in Public Schools; Mr. J. P. Archibald, Beachville. 2 to 3—Practical Reading (Fourth Book); Mr. Burke, Ratho. 3 to 3:45—Surfaces and Solids; Mr. Deacon, M. S., Ingersoll. 3:45 to 4:45—History; Mr. Buchan, U. C. College, Toronto. 8 p.m.—Lecture (Poetry and Politics); Mr. Buchan, U. C. College, Toronto. 9 to 10 a.m.—Grammar; Mr. Buchan. 10 to 11:20 a.m.—Debate ("Resolved, that a Ministry of Education is Preferable to the Superintendency"); affirmative—Robinson (leader), Edgington, and Henderson; negative—Deacon (leader), Courtlandt, and Carlyle. 11:20 to 12 m.—Multiples and Measures (Ar.); Mr. McMillan, Norwich. 2 to 3 p.m.—Class Reading; Mr. Burke. 3 to 3.45 p.m.—Composition; Mr. Wilson, Master P.S., Tilsonburg.

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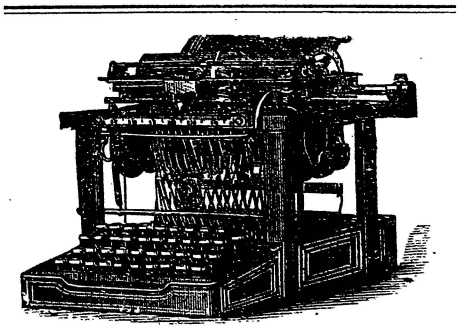

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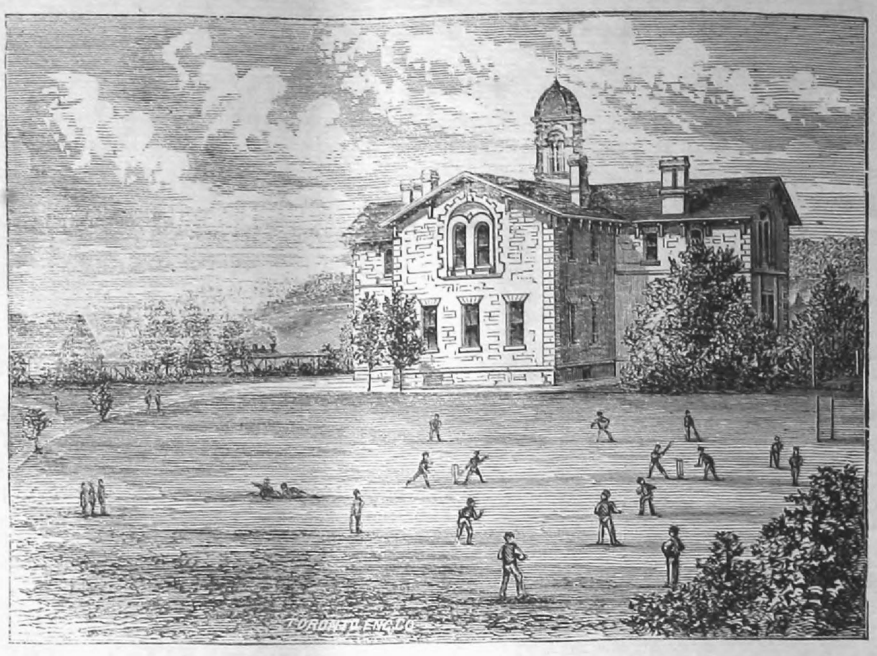

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The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

REPORT OF THE MINISTER OF EDUCATION.

We observe that four county model schools were closed during 1882, leaving 46 in operation. From our point of view, this is a step onward, provided the same sum be still spent by the Government on the remainder. If the present grant were given to 25 schools centrally located, thoroughly equipped with men and appliances, and kept constantly in operation, the country would receive more value for its expenditure, and the cause of professional training would be better served than at present. When students have to leave home, a difference of 20 or 50 miles' travelling is a matter of small importance, while the power and unity gained by combining several counties are of first-rate importance. As it is, however, these schools in training about 7,000 teachers in six years have accomplished a great work whose effect would be felt for a generation even were the schools now suddenly discontinued. Perhaps no other educationists on this continent have been more severely overworked and more generally underpaid than the head-masters of our county model schools. In only six schools were they fully relieved of their ordinary classes, in a few they received assistance for two hours each day, and in 24 schools the lecturing and criticising were done after regular school hours. This is an evil of great magnitude, as the inspectors emphatically point out. The proposals to hold an institute for model school masters, and to review literary subjects during the model school course, is impracticable until all the schools provide adequate assistance for the whole session. The qualifications of the masters have advanced rapidly, and they ought to receive every encouragement possible. Better salaries, more assistance, and improved accommodation are evidently called for.

The first report of the inspector of R. C. separate schools contains some interesting items. The total attendance at these schools was 24,819 for 1882, with an average of a little over 13,000. The total receipts for 1882 were over $137,000; the amount paid to 105 male and 269 female teachers was $75,860. Of the 374 teachers, 10 hold first class, 49 second class, and 99 third class Ontario certificates; 34 teachers hold Quebec certificates which the inspector wishes no longer to recognize; the remainder are members of religious communities. Inspector White estimates that about 56,500 of the 85,000 Catholic children in this province attend the public schools. He mentions great lack of uniformity in text-books, "readers of half a dozen kinds, four or five grammars, as many geographies, and so on through the entire list." Mr. White deprecates this confusion, and invites the Department to extinguish the evil. The body of the report contains a few good hints on the teaching of reading, grammar, and history.

The special report of Dr. McLellan is the *piece de resistance*, and is full of instruction and suggestion. We get from it an insight into the working of seven of the leading normal schools in Mass., Conn., and New York. It furnishes the conclusions of an enthusiastic educationist of well known acuteness and ability. As every teacher will peruse it *in extenso*, we need not attempt to summarize, where it will be more profitable to discuss.

Normal schools ought to confine their attention principally to professional training. Dr. McLellan reaches this conclusion from the grounds of expediency and economy, and not from theory and ideal perfection. At the same time he recommends thorough reviews to supplement, methodise, and mature the students' knowledge of the subjects he is to teach. Some of his trenchant remarks cleave down through the incubus that has long obstructed normal school progress in this province. The line of march is clearly indicated; the imperative demand of this province for "strong and cultured men" to train our teachers is distinctly voiced.

In the Boston Normal School students "are taught to observe"—they cannot escape, even if they would, with a mere looking on. They are required to report just what they see and hear in the lesson given by the regular teacher. There is always one at least of the normal school teachers present during the "training lesson." This report is oral, made to the teacher accompanying them, and is merely an orderly statement of what is done and said in the room visited, the teacher filling up the statement, and giving emphasis to points of excellence. This must have as high an educative value as a branch of experimental science.

In our humble opinion this plan of observation and induction will do student-teachers more practical good than cart-loads of dry homilies dictated piecemeal, more good than

tomes of tabulated reports with a score of points differentiated and averaged. Trained teachers are not to be ciphered into existence by filling up blank forms; they will not spring forth as the result of petty hypercriticism and constant nagging; nor will they be produced by the 'everlasting nay,' thou shalt NOT. The student needs encouragement and help in self-development, rather than repression and a constant fire of little irritating snubs well calculated to spoil his temper and disgust him with professional training. Instead of scribbling notes, he should be carefully observing and telling the results of his observation; should be freely discussing methods, his teacher directing the discussion. His energies should have free play, and he should be led up to a thorough grasp of great general principles, by the free force of his own fresh observations, wisely directed, rather than by scraps of other men's opinions collected from the four winds, undigested and indigestible.

How many teachers do we now turn out fully permeated with the dignity of educational work, fired with enthusiasm, filled with professional *esprit de corps*, heart and soul devoted to the great work of fighting the powers of darkness and ignorance? How many do we send out without any comprehensive grasp of the true meaning of education, knowing only blind rules, and practising only mechanical drill?

"I saw lessons given in reading, number, color, form, measure, and all were given with the educative power of the true teacher. The fundamental maxims of education . . . had entered thoroughly into the teacher's conception . . . and spontaneously governed every act and element of her teaching. She did not 'communicate' knowledge; she helped her pupils to acquire knowledge. . . The discipline was admirable. . . . The teacher never went beyond the 'fatigue point.' . . . I am not sure that the entire discipline would have been quite satisfactory to the martinet of the new school, whose ideas of order and attention are centered in the rectilineal attitude, the metallic rigidity of limb and feature, the staring look, and the death-like silence of the prison-house where 'all the air a solemn stillness holds.' Here were rather the graceful posture, the bright, intelligent attention, the pleasant expectation of delightful things to come—the free, natural movement of the little child, . . . guided by the hand of Love along the pleasant ways that lead to strong and cultured life." This passage of the report fairly represents the spirit and tone of the whole. To every "gerund-grinder" and purblind drill-sergeant it echoes the words of Froude, "Meditate, O owl, meditate!"

In the special report of Mr. J. L. Hughes on *The Kindergarten System* we get valuable information respecting its aims and its progress in St. Louis. Mr. Hughes recommends the introduction into our schools of so much of the system as seems most likely to be generally useful. We sincerely wish to see the exercise songs, the plays, the marching, and the drawing in every primary department of every school. In the fine weather many of these exercises might be conducted out of doors. They would communicate brightness and interest, spirit and life,—yes, joy and sweetness, to which many schools are total strangers. If kindergartens are established at each of the provincial model schools, the system will soon find its way through this open door to every part of the province. We believe that educative power and living interest are eternally connected. Children are very fond of these exercises, which may thus be effectively used to lay the foundation of primary education. Only those who have seen the system in actual operation can realize its importance and power, and in Mr. Hughes we have a specialist who has taken great pains to investigate it thoroughly, who is now its earnest advocate. Let every teacher aim at assimilating Froebel's principles and incorporating them in his practice.

OVER-WORK.

A considerable percentage of our very best teachers and leaders of educational thought break down after a comparatively short term of service. The love of play, the inherent laziness of the average school boy, the number of hours spent each day in the open air at games and sports, the perfect freedom from corroding care, the elastic buoyancy of spirits natural to healthy, hopeful childhood, the cheerful society of companions, the general light-hearted thoughtlessness of youth—these combined are in the main sufficient safeguards against overwork by the great mass of public school pupils. Notwithstanding all that has been said anent over-drill, over-teaching, and endless ranges of examinations of more than Alpine difficulty, the slaughter of the innocents by over-work goes on very slowly indeed, and the greater part of what is written concerning cramming and examining to death has really no foundation in the actual facts of life in public schools.

We admit that in certain exceptional cases excessive school work, sanguine, excitable temperament, indulgent parents, improper food, foul air, thin shoes, dime novels, hereditary disease, and other similar concurrent causes hasten the death of a few delicate and precocious children. It is admitted also that the danger to the average girl is somewhat greater than that incurred by her male analagon, but chiefly because her amusements are too much confined within doors.

The nervous strain required day after day by the intensity of the highest style of teaching is enormous; and we use the word guardedly. We say *enormous*, for how otherwise can we account for the multitude of premature deaths of those who enter the ranks in rosy health and youthful vigor, rejoicing in their strength and wholly unaware until the irreparable mischief is done of the tremendous demands to be made daily on their energies. "Death loves a shining mark." The most active minds, the most vivacious dispositions, the greatest and most earnest souls, in one word, the very best teachers run by far the greatest risk. How often in this province, during the last twenty-five years, has prolonged overwork in the school-room and in the study proved the self-destruction of brilliant genius! These graves opened, alas, too soon; they hold some of the most excellent of the earth.

Let no drone, who hopes for salvation by laziness, venture into a profession demanding an enormous daily expenditure of nerve force which sooner or later tells on the general health, and almost inevitably shatters a delicate constitution. The life of an earnest teacher is hard and wearing, and under present conditions of ventilation, etc., his profession is most unmistakeably an unhealthy one. Quite contrary to the impulses of his pupils who rush out to play, the whole tendency of the teacher's work leads him to seek seclusion, and the more he suffers from over-work the stronger is the effort required to give sufficient muscular exercise to the body, change of occupation, and relaxation of the tension to the overwrought brain.

On the other hand, incaution and ignorance are far more fatal than actual work. Close confinement indoors, a constantly vitiated atmosphere, enormous strain, etc., imperatively demand extreme caution to counteract their bad effects. The daily bath, four hours' exercise in the open air, with proper diet and sleep, will generally suffice. Happy is the teacher who enjoys unbroken health. Let him not tamper with it, lest those fiends, horrible dyspepsia and dreadful neuralgia, suddenly seize him. Let every teacher religiously practise the gospel of relaxation during the coming holidays. Off to lake and mountain, fling books to the winds, and care to the hurricane; now for a reserve fund of health and animal spirits!

DEATH OF MR. DIXON.

We chronicle with deep regret the death of John Dixon, B.A., late head master of Peterboro' collegiate institute. Mr. Dixon was a man filled with the spirit of the true teacher. After obtaining a first-class certificate at the Toronto normal school, he taught in the vicinity of St. Mary's and prepared himself to enter on a university course. He graduated in '76 as an honor man in mathematics, and was for a short time assistant master in the Dundas Institute, whence he removed to Peterboro' as mathematical master in the collegiate institute. On the retirement of Mr. Jeffers from the head mastership Mr. Dixon was promoted to the position which he held until failing health compelled him a few months ago to seek rest. He was still in the prime of life being not much past thirty five. He leaves to mourn his loss, a wife and children, who will receive the heartfelt sympathy of the whole teaching profession.

THE STUDY OF ENGLISH.

It is frankly admitted on all hands that Dr. McLellan has accomplished a complete change in the style of mathematical teaching throughout this province since he became Inspector of high schools. This improvement began at the top, but it has at length extended to the very base of our school system. We have noted during the past year that in his official reports and lectures before conventions, the senior Inspector seems to have set before himself the task of doing for English the same great work that he has already done for mathematics. A medallist in mathematics and in metaphysics at his university, he was also an honor man in English, and one of the most successful teachers of it on the continent. We therefore feel encouraged to hope that his well-known energy and enthusiasm will in the course of a few years produce their usual effect, and that the vernacular language will soon be taught as well and thoroughly as classics and mathematics. The JOURNAL has faithfully attempted to give English studies due prominence, and gladly welcomes the assistance of a powerful ally in the good work.

"The pupil cannot see with your eyes, nor generalize with your conceptive faculty, nor imagine with your imagination, nor reason with your reason. You may lead a horse to the water, but you cannot make him drink. So with the child. We learn only what we teach ourselves. Overdo your part as a teacher, and you rob your pupils of opportunities for mental training, and the knowledge you imagine you have communicated to them is illusory. Let children collect facts for themselves; let them classify facts for themselves; let them name them for themselves; let them frame their own definitions; let them draw their own inferences; let them make their own applications. Think *with* them, not *for* them. *Watch* them, but do not *carry* them. He cannot evolve out of his inner consciousness the facts of history, but he can bring to their elucidation the world around him, and he can use them in their turn to interpret the present. If, in some subjects, he cannot collect the facts for himself, he can at least arrange them when they are collected; he can compare them with facts with which he is already familiar; he can reason from them, and apply the truths they teach in new combinations of his own." The above admirable remarks are condensed from Canon Daniel's lecture on "Locke as an Educationist," delivered before the English College of Preceptors in April. Locke's *Thoughts* is one of the most suggestive books in the language, and should be digested by all who wish to grasp the principles of education. Prof. Fowler ranks it next the *Essay*, or even higher.

The education of the freedmen at the South is the greater American revolution. The marvellous change from the days before the war when it was a penal offence to teach a colored man to read, to the present time with its numerous colleges and universities, its thousands of colored schools, and noble army of teachers, is certainly a revolution of the first magnitude. The correspondence of a Canadian lady, who is now travelling through the old slave states, reveals a most encouraging educational and social progress made by the ex-slaves during less than twenty years of freedom. The old caste feeling among the whites still smoulders, but it is slowly expiring; and, although "nigger teachers" are rigorously ostracised from southern white society, and the odious chain-gang is still in existence with its blood-hounds and cruel treatment, the negroes are developing intelligence, acquiring property, and steadily increasing in number and influence. The Commissioner's last report puts the colored school population of the

sixteen southern states at 1,803,257, of whom 784,709 are enrolled at the schools. In Louisiana the colored people pay taxes on $30,000,000 out of a total of $250,000,000 in the state.

Dr. Abbott, author of *How to Parse*, *How to Write Clearly*, etc., gives, in his *Hints on Home Teaching*, the constructive method of teaching Latin composition. He directs teachers to select some of the longest and most difficult sentences from the author the pupil is translating. These sentences are to be taken to pieces, and each part mastered separately by the learner. "Then by degrees put the pieces together, and make the boys help you in building up the complete sentence." Dr. Abbott's plan could be easily adapted to the teaching of English composition. We now waste time by giving analysis of sentences more than its fair share of attention, while the synthesis of sentences is almost ignored, and consequently the pupil's constructive power lies unused and undeveloped.

Quite a breezy debate took place in the Nova Scotia legislature over a bill to secure better attendance at the public schools. As we, at this distance, understand the measure, its provisions for fining parents and guardians, whose children may not attend school the required minimum of days, are moderate and guarded. The opposition came from two quarters—from those who are conscientiously opposed to all compulsion, and from others who feared that the proposed machinery would induce litigation and ill-feeling, without being powerful enough to effect, to any marked extent, the object aimed at.

The following from an English exchange gives a bird's-eye view of educational progress in the mother land. Incidentally it gives a severe rebuke to the few grumblers in Canada who are continually bewailing the expense of public education :—

"A very interesting return has been prepared by the Education Department, in answer to an address of the House of Commons brought forward by Mr. Fowler. It supplies information for the last twenty years regarding the following subjects in connection with schools under inspection in England and Wales : The accommodation ; number and ages of the scholars on the registers ; in average attendance ; examined by the Inspectors ; and presented in standards suited to their age ; with the average cost of their instruction ; the income from subscriptions ; rates ; school fees ; and from all other sources ; and the annual grants made by the Education Department. Its array of figures is most interesting, and we can see at a glance how the elementary school system has been developing since 1862. In that year there was accommodation for 1,264,146 ; in 1872 it had risen to 2,295,894 ; while in 1882 it had increased to 4,538,329. In 1862 the numbers in average attendance were 799,158 ; in 1872, 1,336,158 ; and in 1882, 3,015,161. More striking still are the figures which represent the numbers who were examined in standards. In 1862 there were 180,005 ; in 1872, 661,580 ; and in 1882, 2,110,374. The examination of children in the upper standards has been gradually extending since 1872, the first year in which a record was kept. In that year 17 per cent. were examined in Standards IV.-VI. ; but in 1882 the percentage had increased to 28 The average cost of instruction was only 19s. 10½d. in 1862. In 1872 it had risen to £1 7s. 5d., while in 1882 it was £1 16s. 8½d., a decline of twopence for each pupil compared with 1881. The income from subscriptions in 1862 amounted to £254,164, and in 1882 to £724,846. This shows a great amount of liberality in the cause of education, but there has been a steady decline since 1877, when the total was £786,245. The rates, on the other hand, have been rising rapidly, and the total from this source of income in 1882 was £808,121. The school fees also have been leaping upwards at the rate of £100,000 yearly, the total in 1882 being £1,585,928. The advocates of free schools may take the last bit of information into their serious consideration, and while they are pondering over the matter they may remember that the Government grants for the last year were £2,393,364. It is seldom that a document which costs only a halfpenny represents such an amount of information as will be found crowded together in the return from which we have been quoting. It gives a bird's-eye view of the onward march of the army of light, and is well worth more than a passing moment's consideration.

SUPERANNUATED TEACHERS.

Q. Is it necessary for a retired teacher, deriving benefit from the superannuation fund, to reside in Canada, or Ontario ?

A. No.

Q. Can a teacher's superannuation allowance be garnisheed for debt ?

A. This question has never been formally decided, but we learn that the Department pays the money to the teacher and to no one else.

Mathematical Department.

ARITHMETIC.—I.

1. Define involution, multiple, and *ad valorem* duty.

2. What is the shortest length of a rope which can be cut exactly into pieces 15, 18, 20, or 21 feet long ?

Ans.—The L.C.M. of 15, 18, 20, and 21, which is 1260 feet.

3. A man bought a rectangular farm 140 rd. long and 40 rd. wide, at $40 per acre. What did it cost ?

Sol.—140 rd. × 40 rd. = 5600 sq. rd. ÷ 160 = 35a. × 40 = $1500.

State points in which the above process is incorrect. Write the work correctly.

Ans.—(1) The statement is illogical in arrangement ; (2) In the attempt to multiply rods by rods ; (2) In the result. 140 rd. × 40 = 5600 sq. rd. ; 5600 sq. rd. ÷ 160 = 35 A. ; $40 × 35 = $1400.

4. How many pump logs, each 12 feet long, will it take to bring water to my house from a spring 1·375 miles distant ?

Ans.—We have 5280 ft. × 1.395 = 5260 ft. ; 7260 ÷ 12 = 605 logs.

5. Two ships sail at the same time from the same place ; the one due north 8 miles an hour, the other due east 6 miles an hour ; how far apart are they in 5 hours ?

Ans.—The ships sail at right angles to each other ; of the triangle thus formed we may consider 5 times 8 = 40 miles the perpendicular, and 5 times 6 = 30 miles the base ; the hypotenuse = $\sqrt{(40^2+30^2)}$ = 50 miles, the required distance.

6. What are the contents of a cone whose altitude is 27 feet, and diameter of the base 20 feet ?

Ans.—Area of base is $20^2 \times \cdot 7854 = 314\cdot16$ sq.ft. ; $(314\cdot16 \times 27) \div 3 = 2827\cdot44$ cu.ft.

7. Add 55 ten-thousandths, $3\frac{1001}{143000}$, $183\frac{3}{80}$, $\frac{19}{25}$, and 81319 hundredths.

Ans.—By reduction we have $\cdot 0055 + 3\cdot007 + 183\cdot0375 + \cdot76 + 813\cdot19 = 1000$.

8. If I pay $1200 for a 60-day draft, when the exchange is ½% premium and rate of discount 9%, what is the face of the draft ?

Ans.—The discount on $1 = $·09 × $\frac{63}{360}$ = $·01575. $1 + ·005 − ·01575 = $·98925, the cost of $1. ∴ $1200 ÷ ·98925 = $1213·04+, the face of draft.

6. If an article had cost 20% more, the gain would have been 25% less ; what was the gain ger cent ?

Ans.—The second cost is 120% of the first cost, and hence on it the amount will be $\frac{5}{6}$ as great a rate per cent. as on the first cost ;

therefore, $\frac{6}{6}-\frac{5}{6}$, or $\frac{1}{6}=25\%$ the difference in the rates. Hence, $\frac{6}{6}=150\%$, rate at first cost, and the gain 50%.

10. If a person spends $\frac{3}{7}$ of his money, and \$20 more than $\frac{7}{9}$ of the remainder less \$20, and has \$28 left, how much had he at the beginning?

ANS.—Had he spent $\frac{7}{9}$ of the remainder less \$20, he would have had \$20+\$28=\$48 left; hence $\frac{2}{9}$ of the remainder less \$20=\$48, and $\frac{9}{2}$ of \$48=\$216=the remainder less \$20. Therefore the remainder was \$216+\$20=\$236, which was $\frac{4}{7}$ of his money at first. Hence he had $\frac{7}{4}$ of \$236=\$413.

11. A has 50 per cent. more property than B, and B has 50 per cent. more than C; how much per cent. more has A than C? How much per cent. less has C than A?

SOL.—Let 100%=C's property; then 150%=B's, and 150%+50% of 150%=215%=A's. Hence A has 125% more property than C. Since 100%=$\frac{100}{225}$ of 225%=$44\frac{4}{9}$% of 225%, C has $55\frac{5}{9}$% less property than A.

12. A bought an organ from B Jan. 1, 1882, agreeing to pay \$160 for it in semi-annual instalments of \$10 each; the first payment due July 1, 1882. A finding himself full of money on figuring up, proposes to pay down at once. Money being considered worth 10% per annum, what must he pay?

SOL.—The final value of \$10 placed at 10%, compound interest, at the end of every 6 months for 8 years is—

$$10[(1\cdot10)^7\times1\cdot05+(1\cdot10)^7+(1\cdot10)^6\times1\cdot05+(1\cdot10)^6+\ldots\ldots+1\cdot05+1]$$
$$=20\cdot50[(1\cdot10)^7+(1\cdot10)^6+\ldots\ldots+1]$$
$$=20\cdot50[(1\cdot10)^8-1]\div(1\cdot10-1)=205[(1\cdot10)^8-1]$$

A must pay the present worth of this amount, which is

$$205[(1\cdot10)^8-1]\div(1\cdot10)^8=205-205\div2\cdot14357821=\$109\cdot37.$$

12. Four notes, one of 150 dollars payable in 10 months, one of 110 dollars payable in 8 months, one of 75 dollars payable in 6 months, and one of 50 dollars payable in 3 months, were discounted for 12 dollars. At what rate of interest were they discounted allowing true discount?

SOL.—Let x=rate of interest. The sum of the present worth of the several notes=\$373. Represented in terms of x give

$$\frac{150}{1+\frac{6}{6}x}+\frac{110}{1+\frac{2}{3}x}+\frac{75}{1+\frac{1}{4}x}+\frac{50}{1+\frac{1}{4}x}=373.$$

Cleared, condensed, and arranged

$$3730x^4+25501x^3+52169x^2+31872x=1729.$$

By the rule for numerical solution of Higher Equation,

$$x=\cdot050021835652.$$

14. Prove that $\sqrt{\left(\frac{\sqrt{(2-\sqrt{3})}}{\sqrt{(2+\sqrt{3})}}\right)}=\frac{\sqrt{2}}{1+\sqrt{3}}$.

SOLUTION—

$$\frac{2-\sqrt{3}}{2+\sqrt{3}}=\frac{1}{(2+\sqrt{3})^2}.\quad\therefore\frac{\sqrt{(2-\sqrt{3})}}{\sqrt{(2+\sqrt{3})}}=\frac{1}{2+\sqrt{3}}=\frac{2}{4+2\sqrt{3}}=\frac{2}{1+2\sqrt{3}+3}$$

$$\sqrt{\left(\frac{2}{1+2\sqrt{3}+3}\right)}=\frac{\sqrt{2}}{1+\sqrt{3}}.\quad\therefore\sqrt{\left(\frac{\sqrt{(2-\sqrt{3})}}{\sqrt{(2+\sqrt{3})}}\right)}=\frac{\sqrt{2}}{1+\sqrt{3}}.\quad Q.\ E.\ D.$$

ARITHMETIC.—II.

1. A and B hired a carriage to drive 42 miles and back, for which they agree to pay \$42. After driving 12 miles they take in C and consent to bring him back with them. At the end of 12 miles more they pick up D and promise similarly to him. Find each man's share of the expense.

ANS.—A and B \$$2.22\frac{3}{11}$ each, C \$$1.59\frac{1}{11}$, and D \$$0.95\frac{5}{11}$.

N.B.—The expense is proportionate to the distance, not to the number of people carried, otherwise the shares would be A and B \$$2.41\frac{2}{3}$, C \$$1.41\frac{2}{3}$, and D \$0.75.

2. A and B take a contract for \$90 and promise to finish it in 5 days, knowing that A could do it alone in 9 days. But during the last 2 days they have to hire C, consequently B gets \$3.75 less than he expected. Find B's wages per day had he done the work alone.

SOL.—A's power of work is $\frac{1}{9}$ of work per day and is certain. The failure must have been due to B, and his short-coming cost him \$3.75 or $\frac{1}{24}$ of whole price; *i.e.* he did $\frac{1}{24}$ of work less than he expected to do. He should have done $\frac{4}{9}$ work, but only did $(\frac{4}{9}-\frac{1}{24})=\frac{29}{36}$ work in 5 days. Hence wages per day=\$$12\frac{12}{29}$. If we attribute the failure to A and B *jointly*, B's time=15 days for whole work, but the solution cannot easily be effected without algebra.

3. A farm is worth 4% less than a block of houses, and the houses 16% more than a corner lot. By exchanging the lot for the farm the owner of the lot loses \$103; find the value of the houses.

4. A, B, and C can do a piece of work separately in 48, 36, and 24 hours respectively. A sets to, and works 10 hours alone, then B joins him, and in 6 hours more C falls in to help till the work is done. They receive \$5 for the job; divide the money equitably.

5. The population of Canada is five millions. The annual deaths are 1 out of every 70, the births 1 to every 60; find the population in 300 years, neglecting immigration and "the exodus."

6. Bought \$7000 worth of bonds paying 7%, payable semi-annually, and due in 20 years so as to yield 8%, payable semi-annually. Find the rate of purchase.

ALGEBRA.

1. (*a*) Multiply $3+\cdot01x$ by $1-x$ and find the value of the product when $x=\cdot1$. ANS. ·0009.

(*b*) Divide by Horner's method, $2\cdot091x^3+9\cdot22x^2+3.694x-1\cdot2$ by $1\cdot02x+4$. ANS. $2\cdot05x^2+x-3$.

(*c*) Divide $a^2(b+c-a)^3+b^2(c+a-b)^3+c^2(a+b-c)^3$ by $(a-b)^2-2(a+b)c+c^2$. ANS. $-c^3+c^2(a+b)+c(a^2-4ab+b^2)-(a+b)(a-b)^2$.

2. Resolve into elementary factors—

(*a*) $2a^2b^2+2a^2c^2+2b^2c^2-a^4-b^4-c^4$.
ANS. $(a+b+c)(a+b-c)(a-b+c)(b+c-a)$.

(*b*) $21(x^2+2xy+2y^2)^2-6(x^2-2xy+2y^2)^2-5(x^4+4y^4)$.
ANS. $2(5x^2+4xy+10y^2)(x^2+10xy+2y^2)$

(*c*) $2x^3y+2bx^4-bx^3y+4abx^2y-x^2y^2+4axy^2-2abxy^2-2ay^3$.
ANS. $(y+bx)(2x^3-x^2y+4axy-2ay^2)$.

3. (*a*) If $2s=a+b+c$, and $2m^2=a^2+b^2+c^2$, show that $(m^2-a^2)(m^2-b^2)+(m^2-b^2)(m^2-c^2)+(m^2-a^2)(m^2-c^2)=4s(s-a)(s-b)(s-c)$.

(*b*) If $2s=a+b+c+d$, express $16(s-a)(s-b)(s-c)(s-d)$ in terms of a, b, c, d.
ANS. $(a+b+c-d)(a+b+d-c)(a+c+d-b)(b+c+d-a)$.

(*c*) Without expansion, show that $(a+b+c+d)^4-(a^4+b^4+c^4+d^4)-(a+b+d)^4-(a+c+d)^4-(a+b+c)^4-(b+c+d)^4+(a+b^4)+(b+c)^4+(c+d)^4+(a+d)^4+(b+d)^4+(a+c)^4=24abcd$.

4. (*a*) Prove that $(a^{n-1}-b^{n-1})(a^n-b^n)(a^{n+1}-b^{n+1})$ is always divisible by $(a-b)(a^2-b^2)(a^3-b^3)$, whether n is even or odd and a positive integer.

(*b*) Arrange $x^8+5x^6+6x^4+5x^2+1$ in des'nding powers of x^2+2.
ANS. $(x^2+2)^4-3(x^2+2)^3+9(x^2+2)-9$.

(*c*) What is the criterion for knowing by inspection whether a regular polynomial with integral coefficients is divisible by (1) $x+1$, (2) $x-1$? Illustrate by the example $x^5+3x^4-x^3-x^2-2$.

5. State and prove the fundamental principle of the common rule for finding the H.C.F. of two or more expressions.

(*a*) Find the H.C.F. of $x^3+y^3+z^3$ and $x^5+y^5+z^5$, when $x+y+z=0$. ANS. xyz.

(*b*) Find the H.C.F. of $x^5+3x^4-8x^2-9x-3$ and $x^5-2x^4-6x^3+4x^2+13x+6$. ANS. $(x+1)^3$.

(*c*) If $(x-a)^2$ is a meas. of x^3+qx+r, find the relation between q and r. ANS. $\frac{r^2}{4}+\frac{q^3}{27}=0$.

6. Reduce to its simplest form—

(*a*) $\dfrac{(2b-c-a)^3-(2c-a-b)^3}{(c-a)^3-(a-b)^3}$ ANS. $\dfrac{9(b-c)}{b+c-2a}$

(*b*) $\left\{\dfrac{1+x}{1-x}+\dfrac{4x}{1+x^2}+\dfrac{8x}{1-x^4}-\dfrac{1-x}{1+x}\right\}\div\left\{\dfrac{1+x^2}{1-x^2}+\dfrac{4x^2}{1+x^4}-\dfrac{1-x^2}{1+x^2}\right\}$
ANS. $\dfrac{2}{x^2}$.

(*c*) If $\dfrac{x}{b-c}=\dfrac{y}{c-a}=\dfrac{z}{a-b}$, show that $ax+by+cz=0$.

7. (*a*) Show that if a^2x^2+bx+c is a perfect square, then $x=\dfrac{m^2-cn^2}{bn^2-2amn}$.

(*b*) Find the sq. rt. of $x^2-2xy+4y^2$ in terms of a and b when $x=9a^2+12ab$ and $y=2b^2+6ab$. ANS. $9a^2+6ab+4b^2$.

(*c*) Find the cube root of $\dfrac{a^3}{8}-\dfrac{8}{27a^6}+\dfrac{2}{3a^3}-\frac{1}{2}$. ANS. $\dfrac{a}{2}-\dfrac{2}{3a^2}$.

8. Solve—

(1) $(x+1)(x+2)(x+3)=(x-1)(x-2)(x-3)+3(4x-1)(x+1)$.
ANS. $x=1\frac{2}{3}$.

(2) $(a+x)^3+(b+x)^3+(c+x)^3=3(a+x)(b+x)(c+x)$.
ANS. $\frac{1}{3}(a+b+c)$.

(3) $a_1x+b_1y=c_1$, $a_2x+b_2y=c_2$, What form do the values of x and y take when $\dfrac{a_1}{a_2}=\dfrac{b_1}{b_2}=\dfrac{c_1}{c_2}$, and what does it indicate?

9. Solve—

(a) $ax^{2m}+bx^m+c=0.$

(b) $x+4+\left(\frac{x+4}{x-4}\right)^{\frac{1}{2}}=\frac{12}{x-4}.$

(c) $2x^3-13x^2+27x-18=0.$

10. Find two numbers whose product is equal to the difference of their squares, and the sum of their squares to the difference of their cubes. ANS. $\frac{1}{2}(5\pm\sqrt{5})$ and $\pm\frac{1}{2}\sqrt{6}$.

N.B.—The preceding papers are a little longer and somewhat more difficult than the intermediate. We have compiled them as a test by which our friends may measure themselves in anticipation of the approaching examination. As far as they go, the last few questions of each will serve the same purpose for first class grade C.

TORONTO UNIVERSITY EXAMINATIONS, 1882.

JUNIOR MATRICULATION.

ALGEBRA.—HONORS.

Examiner—A. K. BLACKADAR, B.A.

1. Find the sum, the product, and the least common multiple of the fractions—

$$\frac{1+x\sqrt{2}}{2(1+x\sqrt{2}+x^2)},\quad \frac{1-x\sqrt{2}}{2(1-x\sqrt{2}+x^2)},\quad \frac{1+x^2}{1+x^4}.$$

2. If $2s=a+b+c$, show that $(c^2+a^2-b^2)(a^2+b^2-c^2)+(a^2+b^2-c^2)(b^2+c^2-a^2)+(b^2+c^2-a^2)(c^2+a^2-b^2)=16s(s-a)(s-b)(s-c)$.

Find the factors of $(x^2-1)(y^2-1)(z^2-1)-(xyz+1)(x^2+y^2+z^2+2xyz-1)$.

3. Given $3-\sqrt{5}$ as one root of the equation, $ax^2+bx+c=0$, prove that $3+\sqrt{5}$ will be the other root; and find the values of the roots of $cx^2+bx+a=0$.

4. Solve the equations—

(i) $10^{(x-1)(2-x)}=1000$

(ii) $\left.\begin{array}{l}\frac{1}{\sqrt{x-a}}-\frac{1}{\sqrt{y-b}}=\frac{1}{2ab}.\\ \sqrt{\frac{a-x}{c+x}}\times\sqrt{\frac{c+x}{b-y}}=\frac{b}{2a}.\end{array}\right\}$

(iii) $\left.\begin{array}{l}x+y-z=0,\\ x^2+y^2+z^2+2xy=8,\\ xz-y^2=1.\end{array}\right\}$

5. If $\frac{a}{b}=\frac{c}{d}=\frac{e}{f}$, prove that each of these ratios $=\frac{a+c+e}{b+d+f}$

If $a=\left(\frac{1-e}{1+e}\right)^{\frac{1}{2}}$, then shall $\frac{1-a}{1+a}=\frac{e}{1+\sqrt{1-e^2}}$.

6. (a) Having given the first term (a), the last term (l), and the number of terms (n) of an arithmetical series, find the common difference and the sum of the series.

(b) If a=first term, r=common ratio, and S_n=sum of n terms of a geometrical series, find S_n, and prove that—

$$a\,S_{2n}=S_n(S_{n+1}-rS_{n-1}).$$

7. Sum to n terms and to infinity the series

(i) $1+(1-\sqrt{3})+(1-\sqrt{3})^2+(1-\sqrt{3})^3+\ldots.$

(ii) $\frac{1}{\sqrt{3}(1+\sqrt{3})}+\frac{1}{(1+\sqrt{3})(2+\sqrt{3})}+\frac{1}{(2+\sqrt{3})(3+\sqrt{3})}+\ldots.$

8. The number of combinations of n things taken r together is the same as the number of combinations taken $n-r$ together.

In how many different ways can nine persons occupy four places at a round table?

9. Find the 8th term of $(1-5x)^{-\frac{1}{5}}$.

Show that $\frac{1+x}{(1-x)^3}=1+4x+9x^2+16x^3+\ldots.$

10. Lead weighs 11·324 times as heavy as water; cork weighs $\frac{6}{25}$, and fir $\frac{9}{20}$ respectively of the weight of an equal volume of water. How much cork and lead must be combined together, so that the mass may be equal to 80 pounds, the weight of a beam of fir timber of the same magnitude?

SOLUTIONS.

1. Rationalising denominators of first and second we have—

$$\frac{1-x^2+x^3\sqrt{2}}{2(1+x^4)},\quad \frac{1-x^2-x^3\sqrt{2}}{2(1+x^4)},\quad \text{and}\quad \frac{2(1+x^2)}{2(1+x^4)},$$

$$\therefore\ \text{sum}=\frac{3}{2(1+x^4)};\quad \text{product}=\frac{1-x^2-x^4-x^6-2x^8}{4(1+x^4)^3};$$

$$\text{and L.C.M.}=\frac{1-x^2-x^4-x^6-2x^8}{(1+x^4)}.$$

2. (a) If s is a factor, the expression will vanish when $s=0$, *i.e.* when $a+b+c=0$; *i.e.* when $a+b=-c$, or $c^2=(a+b)^2$. Writing this value for c^2 throughout, we have—

$2a(a+b)(-2ab)+(-2ab)(a+b)2b+2b(a+b)(a+b)2a$;

i.e. $4(a+b)\{-a^2b-ab^2+ab(a+b)\}$ which is $=0$; $\therefore s$ is a factor.

Similarly $s-a$ is a factor; $\therefore s-b$ and $s-c$ are factors;

i.e. $s(s-a)(s-b)(s-c)$ is a factor, and the expression is symmetrical and of only 4 dimensions and therefore can have no other factor unless it be numerical. Put the expression $=(N)s(s-a)(s-b)(s-c)$. Put $a=b=0$, $c=2$; $s=1$, and we have $(4)(-4)+(-4)(4)+(4)(4)-16=N(1)(1)(1)(-1)$; $\therefore N=16$.

See MCLELLAN'S HANDBOOK, (New Edition), p. 85.

(b) Given $(x^2-1)(y^2-1)(z^2-1)-(xyz+1)(x^2+y^2+z^2+2xyz-1)$

Put $x=-yz$, $\therefore -xyz=x^2$, $\therefore xyz+1=1-x^2$.

Substitute these values and factor out (x^2-1) and we have

$(x^2-1)\{(y^2-1)(z^2-1)+(-x^2+y^2+z^2-1\}$. But $-x^2=-y^2z^2$.

$\therefore$ Exp. $=(x^2-1)\{y^2-1)(z^2-1)+(-y^2z^2+y^2+z^2-1)\}=(x^2-1)(0)=0.$

Therefore $(x+yz)$ is a factor. And, as the expression is symmetrical, $(x+yz)(y+zx)(z+xy)$ must be a factor, and there can be no other literal factors.

Hence exp. $=k(x+yz)(y+zx)(z+xy)$ where k is numerical.

To find k, put $x=y=z=1$, and $-(2)(4)=k(2)(2)(2)$ $\therefore k=-1$.

$\therefore$ Expression $=-(x+yz)(y+zx)(z+xy)$, which are the factors.

3. One root of $ax^2+bx+c=0$ is $\frac{1}{2a}(-b+\sqrt{b^2-4ac})=\alpha$ say;

And the other is $\frac{1}{2a}(-b-\sqrt{b^2-4ac})=\beta$ say;

If $\frac{1}{2a}(-b+\sqrt{b^2-4ac})=3+\sqrt{5}$, the irrational parts must be equal.

$\therefore \frac{1}{2a}\sqrt{b^2-4ac}=\sqrt{5}$; $\therefore \beta$ must $=3-\sqrt{5}$;

And the equation must be

$(x-\alpha)(x-\beta)=0$, *i.e.* $\{x-3-\sqrt{5})(x-3+\sqrt{5})=0$,

or $x^2-6x+4=0$; $\therefore a=1$, $b=-6$, $c=4$, and therefore

$cx^2+bx+a=0$, becomes $4x^2-6x+1=0$, of which the roots are $\frac{1}{8}(3\pm\sqrt{5})$.

4. (i) $10^{(x-1)(2-x)}=10^3$. $\therefore (x-1)(2-x)=3$. $\therefore x=\frac{1}{2}(3\pm\sqrt{13})$.

(ii) From 2nd equation $\frac{b^2}{4a^2}=\frac{a-x}{b-y}=\frac{x-a}{y-b}$ $\therefore \frac{b}{2a}=\pm\frac{\sqrt{x-a}}{\sqrt{y-b}}$,

Taking the + sign $\frac{b}{2a}\sqrt{y-b}=\sqrt{x-a}$.

Substitute this in the 1st equation, and $\frac{2a-b}{\sqrt{y-b}}=\frac{1}{2a}$,

Whence $y=4a^2(2a-b)+b$, and $x=b^2(2a-b)+\frac{b^3}{4a^2}$.

(iii) Square 1st transposed and substitute for $(x+y)^2$ in 2nd equation; $\therefore z=\pm 2$; Substitute this value in 1st and 3rd, and $x=\pm 1=y$.

5. (1) Book-work.

(2) $\frac{a-1}{a+1}=\frac{\sqrt{1-e}-\sqrt{1+e}}{\sqrt{1-e}+\sqrt{1+e}}=\frac{(1-e)+(1+e)-2\sqrt{1-e^2}}{(1-e)-(1+e)}$

$=\frac{1-\sqrt{1-e^2}}{-e}=\frac{-e^2}{-e(1+\sqrt{1-e^2}}=\frac{e}{1+\sqrt{1-e^2}}$.

6. (a) $S=\frac{n}{2}(a+l)=\{2a+(n-1)d\}\frac{n}{2}$, and $l=a+(n-1)d$.

$\therefore d=(l-a)\div(n-1)$. (Book-work).

(b) $Sn=\frac{ar^n-a}{r-1}$, — Book-work.

$$\therefore aS_{2n}=\frac{a^2r^{2n}-a^2}{r-1}\ ;\ S_{n+1}=\frac{ar^{n+1}-a}{r-1};\ rS_{n-1}=\frac{ar^n-ar}{r-1}$$

$$\therefore S_n(S_{n+1}-rS_{n-1})=\frac{ar^n-a}{r-1}\left(\frac{ar^{n+1}-a}{r-1}-\frac{ar^n-ar}{r-1}\right)$$

$$=\frac{ar^n-a}{r-1}\cdot\frac{a(r^{n+1}-r^n+r-1)}{r-1}=\frac{ar^n-a}{r-1}(ar^n+a)=aS_{2n}\ .$$

7. (*i*) $a=1,\ r=1-\sqrt{3}$.

$$\therefore a.\ \frac{r^n-1}{r-1}=\frac{(1-\sqrt{3})^n-1}{-\sqrt{3}}=\tfrac{1}{3}\{\sqrt{3}-(1-\sqrt{3})^n\}\ .$$

And $\dfrac{a}{1-r}=\dfrac{1}{\sqrt{3}}=\tfrac{1}{3}\sqrt{3}$.

(*ii*) We suspect that the $(3+\sqrt{3})$ in the denominator of 3rd term ought to read $(3+2\sqrt{3})$. As the question stands we have failed to solve it. If any of our readers can furnish the solution we shall be happy to publish it. With the change indicated the sum would be $=\frac{1}{3}$.

8. Whenever r things are chosen out of n, $n-r$ are left. B'k-w'k. Suppose one person seated at the table, the remaining eight may be arranged 3, and 3, in $\frac{8.7.6}{1.2.3}$ ways around him. The 3 places at the table will allow him to change his seat in 1.2.3 ways; *i.e.* for each person there will be $\frac{8.7.6}{1.2.3}\times 1.2.3$ different ways of seating the rest. So for the whole 9 persons there will be $9\times 8.7.6=3024$ ways of seating the company.

9. (*a*) The general term of $(1-x)^{-\frac{p}{q}}$ is $\dfrac{p(p+q)\ldots\{p+(r-1)q\}}{1.2\ldots rq^r}$

And here $x=5x$, $r=8$, $p=1$, $q=5$; hence the 9th term will be

$$\frac{1.6.11.16.21.26.31}{1.2.3.4.5.6.7.5^8}(5x)^7=\frac{11.2.26.31}{5}.x^7$$

(*b*) Apply Horner's synthetic division—

1	1	+1	+ 0	+ 0	+ 0
+3		3	+12	+27	
-3			− 3	−12	−27
+1				1	+ 4 + 1
	1	+4	+ 9	+16	+&c.

10. $W=VS$, $\therefore V=\dfrac{W}{S}$. Let x, y, be lbs. of lead and cork,

$\therefore x$ lbs lead $=\dfrac{1000x}{11324}$ vols. water.

y lbs cork $=\dfrac{26y}{5}$ " "

80 lbs fir $=\dfrac{1600}{9}$ " "

And we have the equations $x+y=80$.

$\dfrac{1000x}{11324}+\dfrac{26y}{5}=\dfrac{1600}{9}$, from which x and y are easily determined.

EUCLID.—Honors.

Examiner—A. K. Blackadar, B.A.

1. If a side of a triangle be produced, the exterior angle is equal to the two interior and opposite angles; and the three interior angles of every triangle are equal to two right angles.

In the sides AB, AC of the triangle ABC are taken points D and E at equal distances from A, and a straight line is drawn through D and E to meet BC produced in F. If angle ABC is one-third of angle ACB, then triangle DFB will be isosceles.

2. Divide a given straight line into two parts, so that the rectangle contained by the whole and one of the parts shall be equal to the square on the other part.

In square $ABCD$, the side AB is divided in H so that $AB\cdot BH=AH^2$; AD is bisected in E, and CD is bisected in F; if EH, EB, HF are joined, show that $EH^2+HB^2+BE^2=2HF^2$.

3. The opposite angles of any quadrilateral figure inscribed in a circle, are together equal to two right angles.

A quadrilateral $ABCD$ is inscribed in a circle such that the diagonals AC and BD intersect at right angles in the point M; show that the straight line passing through M and the middle point of AB will be at right angles to CD.

4. In a given circle place a straight line, equal to a given straight line not greater than the diameter of the circle.

Inscribe in a given circle a chord CD of given length, so that it may be divided into equal parts by a fixed chord AB.

5. Inscribe an equilateral and equiangular hexagon in a given circle.

Two equal circles cut one another in the points C and D, the circumference of the one passing through the centre of the other, if the centres A and B be joined, and a circle drawn touching the arcs AC, BC and the straight line AB, prove its radius $=\frac{3}{8}AB$.

6. Triangles and parallelograms of the same altitude are one to another as their bases.

7. Equal triangles which have one angle of the one equal to one angle of the other, have their sides about the equal angles reciprocally proportional; and triangles which have one angle in the one equal to one angle in the other, and their sides about the equal angles reciprocally proportional, are equal to one another.

From the points A, C, in the triangle ABC are drawn parallel straight lines AD, CF without the triangle to meet the opposite sides produced in the points D and F; show that the triangle DBF is equal to the triangle ABC.

In what direction must the parallel lines AD, CF be drawn in order that the triangle FBD may be similar to the triangle ABC?

8. In the right angled triangles, the rectilineal figure described upon the side opposite to the right angle is equal to the similar and similarly described figures upon the sides containing the right angle.

9. If squares be described on the sides of a triangle and their centres joined, the area of the triangle so formed exceeds the area of the given triangle by one-eighth part of the sum of the squares

Solutions.

Propositions :—

1. Euc. I. 32. 2. II. 11. 3. III. 22. 4. IV. 1. 5. IV. 15. 6. VI. 1. 7. VI. 15. 8. VI. 31.

Riders :—

1. The int. $\angle$'s. of $\triangle\ ABC$ = those of $\triangle\ ADE$, I. 32
" " BDF = " CEF,
Remove com. $\angle$'s at A and F, and
$ADE+AED$; *i.e.* $2ADE=ABC+ACB$, *i.e.* $4ABC$,
$\therefore\ 2ABC=ADE=ABC+DFB$, or $ABC=DFB$.
Hence $\triangle\ DBF$ is isos.

2. Draw HK parallel to BC meeting DC in K, then
$2HF^2=2FK^2+2HK^2$, (I. 47.)
$=2FK^2+2DC^2$,
$=2FK^2+8DF^2$, cor. (II. 4.)
$=2FK^2+2DF^2+4DF^2$,
$=DK^2+KC^2+4DF^2+2DF^2$, (II. 9.)
$=AH^2+HB^2+AB^2+2AE^2$,
$=EH^2+HB^2+EB^2$. Q.E.D.

3. Let P be the middle point of AB, and K the point where PM meets BC. It is easily shown that $AP=PM=PB$, since AB is the hypothenuse of a right angled triangle.
Then $\angle PMB=\angle PBM=\angle MCK$.
Also $\angle PMA=\angle KMC$.
$\therefore$ $KMC+KCM$ = whole angle AMB = right angle.
$\therefore$ rem'g $\angle MKC$ of the $\triangle\ MKC$ = right angle.
And PK is perp. to DC.

4. In the given circle place a straight line equal to CD. Bisect CD in E. Join E and O, the centre. Describe a circle with radius OE cutting AB in F, join OF, and through F draw a chord at right angles to OF. This chord will be equal to CD (III. 14) and will be bisected at F. (III. 3).

5. Let D be the point at which the inner circle touches the circle whose centre is A. The straight line AD must also pass through C, the centre of the inner circle. (III. 11). Join CE, the point where AB touches the inner circle. $AE=EB$. Let O be the point where AD cuts the inner circle. $AD.AO=AE^2$ (III. 36), *i.e.* $AB.AO=AE^2$, or $2AE.AO=AE^2$, $\therefore 2AO=AE=\frac{1}{2}AB$,
$\therefore AO=\frac{1}{4}AB$, $\therefore OD=\frac{3}{4}AB$, $=OC=\frac{3}{8}AB$.

7. (*a*) Since AD is parallel to FC, the triangles ABD and FBC are equiangular and therefore similar. $\therefore DB:AB=BC:BF$, *i.e.* $DB:BC=AB:BF$. And in the triangles DBF and ABC the vertical angles at B are equal, $\therefore$ VI. 15, triangle $DBF=ABC$.
(*b*) Ans. So that DF shall be parallel to AC.

We have received from Mrs. Geo. Warburton, Toronto, solutions of the problems on page 78. Owing to our desire to assist our friends at the coming intermediate and university examinations we hold these solutions over for the present.

Correspondence.

To the Editor, CANADA SCHOOL JOURNAL :—

DEAR SIR, – There appears to be a doubt as to the meaning of group (*e*), generally known as the 'French Option,' in the new regulations for High School, Intermediate, and Teachers' work. No one appears to know with any degree of certainty what influence Music and Drawing will have on the group at the next July examinations. Will you kindly endeavor to ascertain for me what influence, if any, the above subjects will have, in so far as the group mentioned is concerned. I shall be glad to hear from you on the matter if you learn anything definite.

Yours truly,

HEAD MASTER.

[It will not be compulsory on candidates to take Music and Drawing in the French group. They will be examined in these subjects if they wish, and the marks obtained will be credited to the group, in the same manner as Drawing in the entrance examination.—ED. C.S.J.]

To the Editor of the CANADA SCHOOL JOURNAL:—

DEAR SIR,—We received, a few days ago, your Geography Primer, which is *multum in parvo*. Allow me to lay before my fellow-labourers a few thoughts in connection with school affairs which may prove beneficial. Many of the stoves in our backwoods' schools are too small. In some schools the lumber employed in building temporary porches could be put to better use in making the main wall. Some again have good walls and poor banking at the bottom, while others have a large space beneath the floor. It is difficult to keep such schools warm. Uniform promotion papers must ultimately prove a success. I would like to see uniform promotion papers for the whole province. No other change in our educational system has been of more benefit than the establishment of model schools. Trained teachers as a rule give better satisfaction than untrained ones. I never had the advantage of such training, and I sorely felt its need. I have lately kept a note-book, wherein I have set down errors discovered in teaching through reading the JOURNAL and *Currie's Education*. I mention a few of them: Allowing ridicule by pupils at the errors of their class-mates; not sufficient reference to maps; incorrect modes of questioning classes; non-observance of the rule "A place for everything and everything in its place;" not enough composition about subjects pupils are acquainted with, and too much on abstract subjects; not enough spelling of geographical names; acceptance of partial answers; making reading lesson a lesson in spelling, literature, geography, etc., instead of a lesson on reading.

I do not believe in prescribing home-work, as I think the 5½ hours' limit long enough in each day.

Yours in Education,

LOUIS N. THIBAUDEAU,
Rydal Bank, Ont.

May 16th, 1883.

[We commend the spirit of the above thoughtful letter to all teachers who wish to improve themselves in their profession.—ED.]

LOCAL OR BRANCH TEACHERS' ASSOCIATIONS.

INSPECTOR'S OFFICE, SOUTH GREY,
PRICEVILLE, 25th May, 1883.

To the Editor of the CANADA SCHOOL JOURNAL:—

SIR,—It has often occurred to me that local gatherings of the teachers in the several neighbourhoods of large inspectoral districts, held at intervals between the regular meetings of the county or district associations, would be a decided benefit to all concerned.

With the view of bringing this subject prominently before the teachers of my own as well as other inspectorates, I subjoin the views of one of my most intelligent teachers, and which you may see fit to publish in your widely-read journal:—"It is not in my "power to do justice to the subject of *branch* or *local* associations, "but I send you some such reasons as have suggested themselves to "me, in thinking over the matter, as being those that would lead "me to bestir myself in my own neighbourhood to aid in the for-"mation of such mutual improvement societies.

"First, of course, is that by these associations an opportunity "would be given for the comparison and discussion of *methods;*

"Secondly, by them, local talent may be developed, as the meet-"ings being more frequent an opportunity will be given for *all* to "take part;

"Thirdly, a system of uniform examinations and *reviews* may be "instituted, and the defects in our modes of teaching the various "branches detected and remedied;

"Lastly, topics of general interest may be introduced and dis-"cussed—such as would be suitable in the *general associations*. We "teachers are somewhat liable to become narrow in our views, but "by selecting worthy themes, and speaking and debating on them, "much good in the way of mutual improvement may be effected, "and our minds rendered more vigorous and elevated in their "tone.

"Normanby, May, 1883."

Should you see fit to insert the above you will oblige,

Yours truly,

WM. FERGUSON,
I. P. S.

Special Articles.

PRIMARY READING.*

Reading was generally considered to be more or less neglected, being supposed to be excluded by other branches of study requiring more care and attention. Those who made this assertion were not correctly informed, for neither school boards nor parents would permit it to be only a secondary matter. As the handmaid of knowledge, its intense importance would cause an outcry against the teacher who neglected to give reading the prominence it deserved in his school. The fault lay more in the method of teaching than in deficiency of instruction; the aiming at a certain amount of work rather than doing a small quantity effectively. Modern educators have gone down to the foundation, and the result has been that more solidity and permanency have been imparted to the whole edifice of instruction. Methods more in accordance with the spirit of the age had been adopted, and a wonderful change had taken place in primary schools in the presentation of printed and written language to the "young idea." The speaker then in a humorous manner illustrated the plans of teaching the alphabet that prevailed in his juvenile days and, indeed, up to within a few years, and showed the evil effect of such senseless drilling on the minds of the little ones. Schools were taught by men and women who turned to pedagogy when when every other avenue in life was closed up, and though this was untrue of the upper classes, yet their contemporaries in the common schools were, as a rule, most unfit for their positions. A change, however, had taken place. It was seen that civilization depended on education, and schools received state support, while training schools for teachers had been

* Extract from report of an Address, given by J. L. ROBERTSON, editorial staff CANADA SCHOOL JOURNAL, at the meeting of the Teachers' Provincial Association Quebec Province, held in Sherbrooke, P.Q.

instituted. The elevation of the standard of teachers had had its effect upon their social status. The part of the school in which the chief change was observable was in the primary class.

The speaker then went on to illustrate some of the modern methods of teaching reading, such as the phonic—which must be distinguished from phonetic, as the latter refers to a particular style of orthography—the "look and say," and the combined phonic and word systems, all of which had certain merits over the old alphabetical plan. He advised the thorough reading of a few words at a time, or of a class of words, instead of a long disconnected lesson consisting of mere gasping exercises; also a complete comprehension of the distinction between the name of a letter and its sound or utterance. As there are two great aids in juvenile education, which are more potent than others, namely, pictures and stories, he recommended that the best reading books which contained them should be used. By these means children might be encouraged to relate the stories in their own words, and, as writing should be taught simultaneously with the reading lesson, both oral and written composition might be successfully taught. In speaking to young children, teachers should avoid the use of "words of learned length and thundering sound," and use only such language as the little ones could comprehend and copy. When a lesson is gone through, every point in it should give rise to a question in order to develop thoughtful reading; if this were not carefully and wisely done, mechanical reading would be the result. The powers of memory should also be exercised by learning by rote short gems of poetry or prose, as in after years this habit would be most beneficial. Teachers should endeavor to become really good readers themselves, as the examples thus shown are readily copied by children, who, as a rule, are extremely imitative. In conclusion, the speaker said that—as parents judge of their children's progress in school by their proficiency in reading, writing, and spelling, more than by their knowledge of other subjects—these branches were frequently considered as a test of the teacher's ability, and he should advise that reading, at least, should not be one of the neglected portions, while, as writing and spelling are taught collaterally, they would keep pace with the reading. He asked the members to consider the address as merely suggestive, as he had had no intention of going into the matter exhaustively. The subject was not new to some present, but its importance was such that it could not be too frequently dwelt upon.—*The Educational Record.*

NAGGING.

We are not quite sure whether the word that heads this article is to be found in the dictionaries, but the thing that it denotes is, in some shape or other, familiar enough to most people. Nagging assumes so many forms, and is carried on under such a wide variety of circumstances, that to treat it exhaustively would require larger space than we have at our disposal, and a wider range of experience than we can boast of. The special form we propose to consider is school-nagging. Who does not remember the teacher who could never let his class alone, who was constantly shouting out orders or snarling out reproofs, who was not content with giving a rebuke, but kept on rebuking, who could never let bygones be bygones, but seemed to find an inexhaustible delight in raking up past offences to aggravate fresh ones? Who does not remember the rapid succession of ejaculations that kept on hurtling through the air—"Smith, you are talking;" "Brown, sit straight;" "Robinson, how many times am I to speak to you?" "Tompkins, there you are again?" "Simpkins, what *are* you doing?" Repose, there was none; even, steady work, there was none; the teacher doled forth his instruction in the brief intervals between one distracting command and another; the class tried to listen or think, as the case might be, under the same unfavourable conditions; until, perhaps, by long habit, commands and threats produced no more impression on their minds than the noise of the mill-stream produces on the miller.

The nagging teacher is, we fear, a very common species, and it may not be unprofitable to inquire into his natural history. The tendency to nagging is doubtless favoured by an acrimonious temper, by an unkindly disposition that finds a pleasure in the infliction of petty misery, and by the desire, sometimes not culpable but sometimes distinctly selfish, of pushing a class on, or of raising it to a very high state of discipline; but it owes its origin mainly to the teacher's incapacity. The skilful teacher never nags. He prides himself on attaining his ends with the smallest number of words, and with a minimum of effort; he gets attention not by obtrusively asking for it, or by punishing for inattention, but by awakening interest; he secures the activity of his pupils by giving them work that they find a delight in performing; his efforts are directed not so much to the correction of faults as to the prevention of their occurrence; he recognizes that many of the faults of children originate, not so much in any natural defect of mind or of character, as in bad teaching and bad training; and he looks to himself, rather than to his pupils, when things go wrong. If his class fidget, he knows that they have been kept too long in one position, and he acts upon Nature's warning by changing their position. If they are inattentive, he knows that he is shooting over their heads, or that they are already familiar with what he is talking about and are too honest to affect an interest they do not feel, or that they want some change of occupation; and he adapts his course accordingly.

The nagging teacher is almost invariably a bad disciplinarian. He seeks to secure the conditions of successful work rather by a ceaseless drill than through causes operating spontaneously in the child's own mind; very often even his drill is unsuccessful through his disregard of laws of body and mind that Nature will not allow to be violated, and through his own want of firmness in seeing his commands executed. The feeble disciplinarian tries to make up for his want of skill by noise and bluster, by constantly reiterated commands and threats, by gibes and flouts, and other such obtrusive means, only to find that these measures produce less and less effect with each repetition. The more he nags, the more he is obliged to nag. What the effect of such treatment must be on the class subjected to it we need scarcely point out. It is impossible that pleasant relations should be established between teacher and taught, when the teacher is constantly finding fault. The child who is for ever being bullied gets naturally to look upon his teacher as a tyrant, and shows no further regard for his will than is inspired by dread. And, as a consequence of this, as soon as the teacher's back is turned his will is wholly disregarded.

The nagging disciplinarian is equally bad as a teacher. He nags because he teaches badly, and he teaches badly because he nags. It would carry us too far to inquire exhaustively what are the causes of bad teaching; the most common are defective knowledge, neglect of preparation, bad method, insufficient illustration, the endeavor to do too much, ignorance of the mental processes involved in learning. All these causes produce unsatisfactory results; unsatisfactory results are apt to beget impatience; and impatience is apt to beget nagging. A lesson has to be gone over again and again because it was not gone over judiciously the first time: explanations have to be explained with the effect of introducing new difficulties that demand new explanations; and the class are blamed for what were really the faults of the teacher. Nagging only aggravates the effects of bad teaching. How can a child give the whole of his mind

to the work in hand when he is constantly harassed by the chidings of his teacher? Anger does not reduce chaotic instruction to methodical order; it does not remove intellectual difficulties; it does not enable the teacher to set at nought the processes by which knowledge is naturally apprehended. On the other hand, it "makes confusion worse confounded;" it distracts the mind, and, by dissipating its energies, leaves less available for the mastery of the difficulty in hand. "It is as impossible," says Locke, "to draw fair and regular characters on a trembling mind as on a shaking paper."

Some admirable remarks on Nagging will be found in Mr. Arthur Sidgwick's recent lecture on "Stimulus." Having explained "nagging" as "a constant fire of little rebukes to one and another for inattentiveness," he says:—"It wears out the patience of the best-regulated boy to receive, or even to hear, such rebukes. It is exasperating to human nature, and is utterly futile. Moreover, it distracts and worries the teacher, and destroys even what chance there was of any real stimulus to attention. My own advice," he continues, "would be this—you may have in many lessons to caution once or twice; but if you find the thing becoming common, look elsewhere for the cause and for the cure. The probability is you are becoming dull. Either quicken up a bit, or, at any rate, vary the proceedings. But don't nag. It may not, of course, be your fault. The weather may be hot; or there may be some excitement toward a great match after school, or races in the vicinity, or some new promotions to the Eleven, or news has come that the ice bears on the reservoir. Anyhow, don't nag. If it is hot, open the door and any remaining window; if it is excitement, try and compete with it, rather than choke it by nagging. I have learnt the futility of this method by having tried it—and failed." Excellent advice! When teachers come to understand that success in teaching does not depend on the mere will of the teacher, not on the mere will of the learner, but on strict conformity to the laws of Nature, they will cease to nag; they will find out a more excellent way; they will learn that Nature is to be subdued in one way only, and that is by obeying her.—*The School Guardian.*

Promotion Examinations.

COUNTY OF WELLINGTON, MARCH 22ND, 1883.

D. P. CLAPP, M.A., AND J. J. CRAIG, B.A., *Inspectors.*

FIRST CLASS—PROMOTION TO SECOND.

READING.

First Book, Part II., Page 76.—When the six months were gone .....the little sick boy had grown.

WRITING.

Copy on slates in script (not printing), page 43:—The day is past .....all the night.

DICTATION.

Pupils will take separate seats with slates; to be conducted in writing. "In the cold time of the year, Frank and Florence had a room all for themselves." "'Tis time you learned to fly." "To warm and to guard them." "The young birds were all crying for food." "They had a bath in the brook, but they were careful not to go in where it was deep, lest they should be drowned." "To pull boys' hair and make them cry." "But Clara says she must first learn her verses for school." "They saw him sprawl on the ice." "He did not choose to go so far as the cheese." "Back to her chink the sly mouse ran." Bruise, noise, raise, twirl, floated, heaven, flower, thankful, cabbage, school, tongue, and schoolmates.

ARITHMETIC.

1. Find the value of 94758 + 2847 + 798688 + 9886 + 258 + 3456.
2. Express in words 3004, 12456, 249, 7200, 1764, CCLXIX, DCCXXIV, CCLVI, XIX, and XLIX.
3. Write in figures seven hundred, seven thousand, one hundred and sixty-five, three hundred and forty, and nine hundred and seventy-four.
4. A man gave a cow and $16 in money for a wagon valued at $60. How much did he get for his cow?
5. Find the difference between 153425178 and 53845258.
6. From two thousand and thirteen take nine hundred and seven.
7. A man deposited in the bank at one time $238, at another $472, and at another $684; he drew out in all $1097. How much has he still left in the bank?
8. From $2117.24 subtract $214.29 + $119.94 + $1.88.
9. Out of a 50 dollar bill I paid $5.31, $7.98, $25.27, and $2.21. How much of the bill have I left?

ORALLY.

10. 6+9 are how many?
6+7+9+5 "
9+3+4+6 "
3+6+2+1+7 "
1 from 9 "
0 " 7 "
7 " 15 "
9 " 17 "
4 " 12 "
8 " 16 "
7 " 13 "

Etc., etc. Each pupil must be examined orally on one question similar to the last on this paper.

LITERATURE.

Open books and answer orally from page 58. (1) What is a truant? (2) What was the truant's name? (3) In what month did this occur? (4) Name the month that follows June. (5) What are berries? (6) What are wicked boys? (7) What do you think of Henry's conduct? (8) Explain the meaning of "neat and clean," "fine morning," "full of glee," "be so naughty," "do right," "to their classes," and "lots of ripe berries."

ENTRANCE TO THIRD CLASS.

ARITHMETIC.

1. Write in figures eight millions ten thousand and eight. Write in words 13000107, 19685799, and in Roman numerals 5555, 1883, 9493, and 1019.
2. Divide 73146592 by nine thousand eight hundred and seventy-four.
3. Multiply eight hundred and ninety-six thousand and seven by ninety thousand and seventy-six.
4. If a train goes 350 miles in 14 hours; how far will it go in 20 hours?
5. If I get into a boat and row up stream 224 yards, then stop rowing and float down stream 1074 feet, then row up stream 80 yards, how far am I from where I started?
6. Find the difference between 783007 + 8 and 864811040 ÷ 23.
7. If 13 plows cost $122.85; how many such plows will $160.65 buy?
8. A boy bought a pair of skates for $2.25, 7 pencils at 60 cents per dozen, 3 books at $2 each, and handed the merchant a $10 bill; how much change would he receive from the merchant?
9. What is the least number which should be added to 3758 to make the same exactly divisible by 117?
10. A drover bought 68 lambs at $2.25 each, and after keeping them 4 months, at a cost of 10 cents each per month, he sold them at $3.10 each; find his gain.

LITERATURE.

1. What is meant by "presence of mind," and what is an "ingenious device"?
2. Give another name for a "grand church." Why were they painting the ceiling?
3. What is meant by "handiwork"? What is a "platform"?
4. What is "a cruel stroke"? What is "a storm of passion"?

5. Give the meaning of "quick as thought," "daubed it," "utterly spoiling it," and "strange action."
6. What is a factory, and what is the tall chimney for?
7. What is meant by "means of descending"?
8. What is a keepsake, and why was it a keepsake?
9. What is a pulley? a scaffold? a ladder? a coil?

GEOGRAPHY.

1. Draw a map of the County of Wellington, showing its townships, county town, incorporated villages, railroads and chief rivers.
2. Bound the township of Minto.
3. What township north of West Garafraxa? east of West Luther? west of Peel?
4. What is a town-line? Define concession, lot, side-road and blind-line.
5. What and where are Irvine, Grand, Four-mile Creek, Erin, Elora, and Saugeen Road, and Conestoga?
6. What is a city? What is a mountain? What is an ocean? What is a valley? What is a sea?
7. Name fifteen post offices in the County of Wellington.

DICTATION.

Second Reader, page 226, from "At length when the last biscuit had been eaten" to "his queen." Pupils are to be told by examiner where each sentence begins. Capitals to be counted.

Memories, desolate, unbridled, impulse, perseverance, proceeded, jealous, entangled, loosened, hospitable, stiffening, inclement, wearisome, invocation, acceded, demurred, impatient, carpenters, majority, and separated.

READING.

Second Reader, page 161, from "They all stood in silence" to "for eager heads to reach."

WRITING—ON PAPER.

Second Reader, page 148: "Golden autumn comes again".... "Hence the reapers bear the sheaves."

ENTRANCE TO FOURTH CLASS.

READING.

Third Book, page 188, from "Upon one of the green islands" to "breathed his last."

WRITING.

To be judged from dictation paper.

DICTATION.

Third Reader, page 224, from "The schooner collided" to "driven up the lake." "The principal Saxon chiefs," "unrivalled naval power," "eminent in cultivating the arts of peace," "witness the spectacle," "entitling him to grateful remembrance," "the eddying gust," "the melancholy days," "I reflect with sorrow and astonishment," "Hurrah for England's Queen," "the moral effect of this memorable action," "as they drifted on their path," "over the enemy's taffrail," "having the curiosity to know its contents," "in his embarrassment," "the echoing chorus sounded."

COMPOSITION.

1. Write short descriptions of the following tradesmen and their occupations:—
   (*a*) A blacksmith. (*b*) A butcher. (*c*) A shoemaker. (*d*) A farmer.
2. Write short descriptions of the following members of different professions and their duties:—
   (*a*) A minister. (*b*) A lawyer. (*c*) A teacher. (*d*) A doctor.
3. Write short letters on the following subjects:—
   (*a*) Excusing a child's absence from school.
   (*b*) Ordering goods from a merchant.
   (*c*) Invitation to a friend to dine or take tea.
4. Write a short account of "The Little Hero of Haarlem."

GRAMMAR.

1. Enlarge the sentence, "Books please me."
2. Combine the following group of statements into *one* simple sentence:—*The house was burned.* It stood on the hill. It was a white house. It was burned last Tuesday. It had a beautiful garden.
3. Give the singular and plural possessive of ox, fox, lady, tooth, roof, and men. Also the plural of half, this, monarch, motto, German, Frenchman, was, and cherub.
4. Define antecedent, comparison, strong conjunction, possessive case, and adverb. Give an example of each.
5. Analyse, *Yonder stands Mary's little lamb. Just then I heard a voice behind me.* And parse the words in italics, giving relation.
6. Divide the following words into syllables, and underline the silent letters in them:—Transportation, written, streamed, and caught.
7. Correct any mistakes in the following:—Him and me was going to the show, but papa wouldn't give us no money. Them's my mittens.

GEOGRAPHY.

1. Define:—Ecliptic, orbit, oasis, latitude, watershed.
2. Name the political divisions of South America with their capitals.
3. Name and locate the cities of the Dominion.
4. Name the counties of Ontario on the Great Lakes.
5. What and where are the following:—Collingwood, Bahama, Cobequid, Yucatan, Missouri, Madeira, Galapagos, Hooker, Race, Titicaca?

LITERATURE.

1. Early in the morning, the family who dwelt in the lighthouse beheld the vessel upon the rocks, with a powerful sea beating upon her, which threatened her with complete destruction.—*Third Reader, page 73.* (*a*) What family is meant? (*b*) Give the names of the vessel and of the lighthouse. (*c*) In what year did this occur? (*d*) Where was the vessel proceeding? (*e*) Explain the meaning of *lighthouse, vessel, powerful sea, threatened her,* and *complete destruction.*
2. Artists flocked to her lonely dwelling to take her portrait, and depict the scene in which she had been engaged. A sum exceeding five hundred pounds, collected by subscription, was presented to her; and some of the most eminent persons in the land wrote letters to her, containing warm expressions of regard. (*a*) Why was her dwelling called lonely? (*b*) Where did she live? (*c*) How many persons were saved from the wreck? (*d*) Why is the young woman named in this lesson called a heroine? (*e*) Give a short sketch of her life. (*f*) Give the meaning of *artists, portrait, depict the scene, collected by subscription, eminent persons,* and *warm expressions of regard.*
3. Write from memory the verses beginning with "Sweet is the hour of rest," to "In the world beyond the grave."
4. Write from memory the verses beginning with "Ah! rudely then, unseen by me," to "when last I saw thee drink."

CANADIAN HISTORY.

1. Who colonized Canada, and what name did they give it? With what difficulties did they meet?
2. Name two or three objects people had in view in coming from Europe to this country two or three hundred years ago.
3. Tell all you can remember about Champlain, Frontenac, Marquette, and La Salle.
4. Describe the capture of Quebec in 1759 as fully as you can.
5. Why did the French and English colonists in America quarrel so continually?
6. Name the articles of commerce between Canada and France about the year say 1720.
7. When did the seventeenth century begin and end?
8. What events happened in Canada in the years 1535, 1603, 1663, and 1763?

ARITHMETIC.

1. Bought a farm at $43 per acre; and, after keeping it for a certain time, I sold it at $58 per acre, gaining thereby $4410. How many acres were in the farm?
2. Find the value of $(1\frac{3}{4} \div 2\frac{1}{2}) + (5\frac{1}{2} \div 3\frac{1}{8}) + (4\frac{1}{7} \times 2\frac{2}{5}) \times (\frac{5}{8} - \frac{1}{2} \text{ of } 1\frac{1}{4})$.

3. A man left $\frac{1}{4}$ of his estate to his wife, $\frac{2}{3}$ of the remainder to his son, and the balance, $1835, to his daughter. Find the value of the estate.

4. Find the difference between seven millions eighteen thousand and ninety, and $\overline{\text{DLXV}}$CMIV.

5. The remainder is one-ninth the divisor, the quotient (28) is seven times the remainder. Find the dividend.

6. $\frac{1}{8}$ of my money is in five-dollar bills, $\frac{2}{3}$ of it is in ten-dollar bills, and the remainder ($10) is in silver. How many bills have I?

7. Find the value of $83{\cdot}807 \times {\cdot}0047 + 96{\cdot}34 - {\cdot}0725$.

8. A boy bought some peaches at 3 cents each; had he paid $5\frac{1}{2}$ cents each, they would have cost $2.40 more. How many did he buy?

9. James has 4 marbles more than George, and John has 6 less than George; they have altogether 88. How many has each?

10. Find the value of a piece of land 3 miles long, 1 mile wide, at $23 per acre.

ENTRANCE TO FIFTH CLASS.

WRITING.

Writing will be judged from dictation paper. Slates not to be used.

DICTATION.

Fourth Book, page 79:—From "I had not long to wait" to "in various stages of suffering." 1. "Aside the frozen Hebrides." 2. "No Lethean drug for Eastern lands." 3. "Rings out for us the axe-man's stroke." 4. "So high has the reputation of the ship-builders of New Brunswick risen." 5. "There were bevies of birds and swarms of bees." 6. "Twice twenty leagues beyond remotest smoke of hunter's camp." 7. "The sweet and solemn worshippers." 8. "The skin, broken and abrased, loses its brightness." 9. "Ere the soil of our faith and freedom should echo a foeman's tread." 10. "A type of our young country in its pride and loveliness."

READING.

Fourth Book, page 76:—From "An impression similar in kind" to "become enfeebled."

COMPOSITION.

The examiner will write the subjects on the blackboard. Candidates must choose one of the following subjects, and the composition must not be less than 30 lines in length:—

(*a*) Christmas Day; (*b*) Intemperance; (*c*) Making the best of things; (*d*) A letter to a friend on any subject.

GEOGRAPHY.

1. Define aborigines, great circle, roadstead, tropic of Cancer, bayou, delta, savanna, morass, republic, and pole.

2. Name at least two cities on each of the following rivers:—Mississippi, St. Lawrence, Thames, Volga, Danube.

3. (*a*) If a passenger goes from Elora to Peterborough by the shortest route, name the railroads he passes over. (*b*) Give the names of at least ten stations on the way.

4. Name the capes, straits, gulfs, and bays on the Atlantic coast of North America.

5. State accurately what and where are Prince Arthur's Landing, Thunder Bay, English River, Bass, Roca, Hammerfest, Pembina, Manilla, Brandon, Queen Charlotte.

6. Draw a map of New Brunswick, and locate its principal towns, rivers, lakes, capes, and bays.

GRAMMAR.

1. What is the difference between gender and sex? Give a sentence containing a direct and an indirect object. Explain the meaning of the terms affirmative and negative.

2. Give the corresponding gender of widow, nephew, czar, negro, and teacher; also the singular of beaux, axes, seraphim, bellows, memoranda; compare magnificent, dry, wooden, ill.

3. Define reciprocal pronoun, consonant, phrase, conjugation, and antecedent, and give an example of each.

4. Define the moods. Give examples.

5. Decline the personal pronouns.

6. Analyse—Here, *with* my rifle and my *steed*, and *her who left* the world for me, *I plant me where* the red deer *feed* in the green desert—and *am free*.

7. Parse the words in italics in the above.

8. Correct the following errors, giving reasons. He carried him ashore as lightly and as easily as if he had been a child of five years old. We have both a black and white horse. Your skates lays under the table.

ENGLISH HISTORY.

1. Tell all you know about the coming of certain German tribes into Britain in the fifth century. Give the cause of their visit, the date, their leaders, and the results.

2. Who was the first King of England? Give date.

3. How did Athelstan encourage commerce?

4. Describe the Feudal System. Who introduced it?

5. Name a few good results of the Crusades.

6. Of the following battles, name simply (*a*) The nations engaged, and their leaders. (*b*) The place (country) and the date. (*c*) The results which followed, viz.:—Bannockburn, Cregy, Agincourt, Bosworth, and Naseby.

7. State the principal conditions of the Treaty of Utrecht, the First Treaty of Paris, the Union Act, the Habeas Corpus Act, and the Reform Bill. Give dates.

8. For what are the following men noted, viz.:—Sir Christopher Wren, William Wilberforce, Sir Rowland Hill, James Cook, Wm. Pitt, and James Watt.

LITERATURE.

1. In conformity with the desolating plan of the campaign, the ruin of the ancient capital of the Czars had been determined. The criminals confined in the different prisons received their liberty on condition of setting fire to the city as soon as it should be in possession of the French army. In order to insure its destruction, the engines, and every means by which the fire might have been extinguished, were removed or destroyed. The Exchange was the first building that fell a prey to the flames. (*a*) Name the country invaded by the French. (*b*) What is meant by "the desolating place of the campaign"? (*c*) Whose plan was it to desolate the country? Why? (*d*) Give the name of the ancient capital of the czars. (*e*) What was the "Exchange"? (*f*) Explain the meaning of "ancient capital," "to insure its destruction," "the engines." (*g*) Who led the French army in the campaign?

2. Their avarice was now satisfied, and the next struggle was for ambition—a struggle which was fatal to their daring men—laying them in succession in a bloody grave. (*a*) When was their avarice satisfied? (*b*) How was their avarice satisfied? (*c*) What is meant by "the next struggle was for ambition"? (*d*) Give the names of the leaders of this expedition. (*e*) Explain the allusion contained in the last clause of the extract. (*f*) In what year was Peru conquered? (*g*) Who was monarch of Peru at the time of its conquest?

3. Give in your own language a description of buccaneers.

ARITHMETIC.

1. Find the cost of plastering the ceiling and walls of a room 18 ft. long, 14 ft. wide, the ceiling being 12 ft. high, at 15 cents per square yard. Also find cost of carpeting the same room with carpet 27 inches wide, worth 90 cents per yard,

2. Find total amount of following bill:—

$7\frac{1}{2}$	yards	print	@ $0.19	per yard.
$8\frac{3}{4}$	"	cotton	@ 0.09\frac{3}{4}$	"
$13\frac{1}{8}$	"	tweed	@ $1.15	"
13	"	silk	@ 2.37\frac{1}{2}$	"
$\frac{1}{4}$	"	velvet	@ $8.25	"

57 buttons @ 25 cents per dozen.

3. Find the simple interest on $350 from January 1st, 1883, to April 21st, 1883 (inclusive), at 8% per annum.

4. The quotient is $\frac{7}{9}$ the divisor, the divisor is nine times the remainder. Find the dividend if the quotient is 28.

5. The diameter of the fore wheel of a buggy is $\frac{8}{7}$ the diameter of the hind wheel, and the circumference is to the diameter as 22 is to 7. Find the diameter of the fore wheel if the hind wheel makes 480 revolutions in going one mile.

6. Find the value of $(3{\cdot}65 - {\cdot}0078 + 29{\cdot}\dot{3} - 2{\cdot}3\dot{4}0\dot{6} + 3070 - {\cdot}4\dot{7}\dot{2}) \times 46{\cdot}62\dot{4}0\dot{5}$. Answer to be a decimal.

7. How long will it take a man to walk around a block of 4 town lots lying side by side, each lot being 50 yards long by $72\frac{1}{2}$ feet wide, if he walks at the rate of 2 miles per hour?

8. $\frac{1}{4}$ of my money is in ten-dollar bills, $\frac{2}{3}$ of the remainder is in five-dollar bills, and $\frac{4}{5}$ of what then remains is in two-dollar bills. I have $6 in silver; how many bills have I?

9. How many Third Books, each 5 inches wide, 8 inches long, and 1 inch thick, can be packed in a trunk 2 feet 6 inches long, 20 inches deep, and 1 foot 4 inches wide?

10. Express in words 2002·002; write in decimals twenty-four hundredths, five millionths, and define prime number, complex fraction, and concrete number.

COUNTY OF SOUTH ESSEX, APRIL 5TH & 6TH, 1883.

D. A. MAXWELL, *Inspector.*

CLASS I.

ARITHMETIC.

Written.

1. Write in words 2000, 1724, 1003, 1075.
2. Write in figures three hundred and three, seven hundred and sixty-four, eight hundred and eighty.
3. Find sum of 627432, 543201, 678641, 548200, 868759, 345678.
4. John is 12 years old and James 4 years old; how old will John be when James is as old as John is now?
5. If there are two bins of wheat, the first containing 125 bushels and the second 80 bushels more than the first, how many bushels are there in the two bins?
6. A speculator having $4000 gained $3560, and afterwards lost $3479; he then gained as much as he saved out of the first gain; how much did he gain altogether?
7. What number must be added to the sum of 50, 2756, 406, and 525, to make the sum equal 5736, 47, 648, and 7522?
8. Essex Centre is between Amherstburg and Charing Cross; if the distance from Amherstburg to Essex Centre is 16 miles, and from Amherstburg to Charing Cross is 65 miles, how far from Essex Centre to Charing Cross?
9. Two men bought a horse; one paid $75, and the other $29 less; how much did both pay?
10. A grocer sold 27 bushels of corn and 85 bushels of wheat; how many bushels of grain did he sell?

Mental.

1. Find the sum of 6, 4, 12, and 8.
2. A cow is worth $25 and a sheep is worth $5; find the price of the two.
3. A person bought 19 lbs. of sugar and then 14 lbs.; how many lbs. did he buy?
4. Find the sum of the five numbers following 7, obtained by counting by 1.
5. A person bought 3 sheep for $15, but could not sell them for as much by $8; how much did he get for them?
6. How many more sheep are in a flock of 60 than in a flock of 45?
7. Out of a bin of 55 bushels, 23 were taken away; how many bushels were left?
8. How many are 25 plus 18 minus 16?
9. John had 25 marbles, he bought 30 and then sold 42; how many had he left?
10. Willie had 25 cents; he bought a knife for 15 cents, a pencil for 5 cents, and lost 3 cents; how many cents had he left?

CLASS II.

Written.

1. Write in figures three hundred thousand and twenty-one, ninety-four thousand nine hundred and four.
2. Write in words 37003, 80008, 104020, 1090090.
3. Multiply six hundred and fifty thousand and ninety by three thousand and eight.
4. What is the least number which when added to 292463, gives a sum divisible by 75?
5. If 65 hogs can be bought for $6 each, and can be fed for a certain time for 65 cents a head, and on taking them to market 4 should die and the rest be sold for $8 each; how much would be gained?
6. The smaller of two numbers is contained 32 times in 992, and the greater is 18 times the smaller; find the product of the numbers.
7. If the distance round the earth be 25000 miles, how long will it take a man to travel it at the rate of 35 miles per day?
8. A farmer has 14 calves worth $4 each, 40 sheep worth $3 each; he gives them all for a horse worth $150; does he gain or lose by the bargain, and how much?
9. There are 1440 eggs to be packed in 24 baskets; how many dozen will be put in each basket?
10. If a person buy 20 cows for $30 each and sell them for $35, how much does he gain?

Mental.

1. If one man can do a piece of work in 30 days, in what time ought 3 men to do it?
2. Find the price of 7 yards of cloth at $3 per yard.
3. A lady paid 132 cents for ribbon at 11 cents per yard; how many yards did she buy?
4. A farmer agreed to take 10 yards of cloth at $4 a yard for 8 calves; find the price of each calf.
5. A person bought 7 bls. of flour for $40, he sold them so as to gain $2 per brl.; how much did he get for the flour.
6. Four boys bought a foot-ball for 75 cents; John paid 20c., James 33c., and William 18c.; how much did Reuben pay?
7. Mary has 6 rose bushes with 9 buds on each, and 3 geraniums with 8 buds on each; how many buds are there in all?
8. What will 27 lbs. of beef cost at 6c. per lb.?
9. John has 10 books and James has 3 times as many less 12; how many has James?
10. How many lbs. of fish can be bought for 90c. at 6c. per lb.?

CLASS III.

Written.

1. At a game of cricket A, B, and C together score 108 runs; B and C together score 90 runs, and A and C together score 51 runs; find the number of runs scored by each of them.
2. A fore wheel of a carriage is 8 feet round and the hind wheel is 14 feet round; how many times will the points touching the ground at starting touch the ground at the same instant in travelling 1000 feet?
3. Two farms contain 4328 acres, the difference between them is 400 acres; find how many acres in each farm.
4. If I divide 360 marbles among John, James, and Joe so that as often as John gets 1 James gets 2, and as often as James gets 3 Joe gets nine, how many will each one get?
5. A field is 60 rods long and 25 rods wide; find the value at $75 per acre.
6. How much does the sum of $7\frac{1}{2}$ and $8\frac{3}{4}$ exceed their difference?
7. 1200 men have provisions for 12 months; how long will they last if, at the end of 4 months, 300 more men join them?
8. Find the difference between fifteen and one-fifth bushels and fifteen-fifths bushels.
9. Find the price of 8 loads of wood, each containing 7 cord feet, at $3 per cord.
10. The average height of each of 7 mountains is 2350 feet, another mountain is 600 feet above the average; find the combined height of the eight mountains.

Mental.

1. Find the cost of 48 lemons at the rate of 3 for 5 cents.
2. A thief travelling 10 miles an hour is 6 hours ahead of the constable, who, by taking a railroad train, can travel 25 miles an hour; in how many hours will the thief be overtaken?
3. If a turkey cost $\$\frac{7}{8}$, a goose $\$\frac{1}{2}$, and a chicken $1, how much will the whole cost?
4. How long will it take 8 men to do what 12 men can do in 6 days?
5. Find the price of 1200 lbs. of hay at $8 per ton.
6. If I buy 80 sheep at the rate of 8 for $20, and sell them at the rate of 10 for $3, how much do I gain?
7. How many bushels of wheat are in a load of 30 bags, each bag containing 104 lbs.?
8. A room 12 feet wide costs $64 to carpet it with carpet one yard wide, and worth $2 per yard; find the length of the room.

9. A man bought a cask of vinegar containing 63 gallons, $\frac{3}{7}$ of which leaked out; he sold the remainder for $36; how much per gallon did he get for it?

10. A man being asked the price of his horse, said $\frac{3}{4}$ of the value exceeded $\frac{2}{5}$ of the value by $35; find the price of the horse.

CLASS IV.

Written.

1. If a turkey cost $\frac{5}{7}$ of a $, and a goose $\frac{3}{10}$ of a $, how many turkeys and geese, an equal number of each, can be bought for $14 and $\frac{1}{5}$?

2. In one school of 60 children, 65 per cent. of them learn to write; in another school of 70 children, 78 per cent. of them learn to write; what is the percentage of the two schools together of the children who learn to write?

3. A railway cutting is 38 feet wide at the bottom and 74 feet at the top, 35 feet deep, and $\frac{3}{4}$ of a mile long; how many solid yards of earth in it?

4. If $90 will pay 5 men for 12 days' work, how much will pay 32 men for 24 days' work, if the efficiency of the second set be half that of the first, and their day's work be $\frac{5}{4}$ as long?

5. A room is 7 yards 1 foot 3 inches long, 5 yards 2 feet 9 inches wide, and 4 yards 6 inches high; find the expense of papering it; the rolls of the paper to be 27 inches wide, and to cost 30c. per yard.

6. Multiply 3.456, 6 being a repetend, by .425, and divide 2.472 by 3.4, 72 being a repetend.

7. A house which cost $1500 rents for $120 a year, the outgoings for insurance, &c., amount to $1\frac{1}{4}$ per cent. of the cost; what rate of interest does it pay?

8. A sum of money is to be divided among *A*, *B*, *C*, and *D* in such a manner that *A* is to receive $\frac{1}{3}$ of the whole, *B* $\frac{1}{4}$, *C* $\frac{1}{6}$, and *D* the remainder; what is that sum, *D*'s share being $28?

9. What sum must be assessed to raise $3800 net, allowing 5 per cent. for collecting?

10. A bankrupt's debts are $5000, his assets are $2500; how much will a creditor lose whose claim is $900?

Mental.

1. What number is that to which if $\frac{1}{3}$ of itself be added, the sum is 48?

2. A man being asked how many sheep he had, answered if he had as many more, $\frac{1}{2}$ as many more, and $2\frac{1}{2}$ sheep he would have 100; how many had he?

3. At $\frac{5}{8}$ of a $ per yard, how many yards of silk can be bought for $6?

4. A boy by mistake added $\frac{6}{7}$ instead of $\frac{7}{8}$? was his answer too great or too small, and by how much?

5. If 5 horses eat 2 tons of hay in $2\frac{1}{2}$ months, how many tons will 7 horses eat in $3\frac{2}{3}$ months?

6. Find the interest on $5 for 3 months at 8 per cent. per ann.

7. If a cow be sold for $44 at 10 per cent. above cost, find the cost.

8. $\frac{1}{7}$ of a string being broken off, and then $\frac{1}{3}$ of the remainder, there were 280 feet left; find the original length of the string.

9. If 2 lbs. of tea worth 40 cents per lb. be mixed with 3 lbs. worth 50 cents per lb., at how much per lb. must it be sold to gain 70 cents by the transaction?

10. If each of 60 sheep shear 6 lbs. of wool worth 30 cents per lb., how much is the wool worth?

CLASS I.

LITERATURE.

Lesson on page 20, Part II.:—

1. Explain the words cart, sky, tent, flood.
2. Make a statement about an egg, apples, snow, water, chalk.
3. Correct any errors in the following sentences:—
   did he go to kingsville
   Have you written to mary
   He says i done it.

Lesson on page 34:—

4. Spell other words pronounced the same as THERE, EIGHT, HEARD, SAIL.
5. Explain: To furl the sails; deep boom of the surf; to twirl the great ship.

CLASS II.

Lesson on page 144, Book II.:—

1. Explain: shepherd, flocks, harp, giant, defy, carcass.
2. Tell what you know about David the son of Jesse.
3. Where is Egypt? What was the Promised Land?
4. What moral lesson have you learned from this lesson?

Lesson on page 20:—

5. What is A FABLE, A POND, A TOWN, A JAR, INJURE?
6. What moral lessons have you learned from these fables?

CLASS III.

Book III., page 76:—

1. Explain sturdy, intelligent, pilot, resin, tar.
2. Give various meanings for crew, post, charge, head.
3. Give exact positions of Detroit and Buffalo.
4. What lesson do you learn from this narrative?

Book III., page 137, &c.:—

5. Give, in your own words, an account of Heywood's adventure with a bear.
6. Give the different meanings and form sentences to illustrate the meanings of bear, drawing, customs, lead, minute, safe.

CLASS IV.

Cortez in Mexico.

1. What parts of the American continent were colonized by the Spaniards? What has been their condition?

2. Name some Spanish discoverers. Sketch the conquest of Mexico by Cortez.

3. Explain the words hostilities, suspicions, indignity, superstitions, excesses, creed, etiquette.

4. Give some account of the social and political condition of Mexico when Cortez invaded it.

5. "Subsequently the war was continued: desperate resistance on the one side and unrelenting cruelty on the other." Analyze.

The Buccaneers.

6. Give the origin of the buccaneers, and how the name was applied to them.

7. Give the positions of Chagres, Portobello, Panama, Jamaica, St. Domingo.

8. Explain: dispensers of poetic justice; alliance, offensive and defensive; gave no quarter; captured their prizes by boarding.

9. What advantages have been derived by the expeditions of the buccaneers?

10. Parse, page 144, line 5, PIRACY; line 28, OF.
    " 145, line 3, HAS; line 10, SLAIN.
    " 146, line 18, BUT; last line, OFFICERS.

READING.

1. Class I.—Part II., Book, pp. 62-64.
2. " II.—Second Book, pp. 115-118.
3. " III.—Third Book, pp. 137-141.
4. " IV.—Fourth Book, pp. 115-118.

CLASS I.

SPELLING.

1. The bear has no tail.
2. He would give hats and cents to his groom.
3. The flesh of seals.
4. They gave him much praise.
5. Charlie's sisters.
6. His friends thought him proud.
7. Made him sneeze.
8. How to steer their sleighs well.
9. Ripe berries.
10. Some great rough creature.

CLASS II.

Joseph sent waggons for Jacob. One of their descendants. Many beautiful psalms. A new bonnet for her mother. Two men were painting the ceiling of a church with ingenious devices. Came forward to seize her and squeeze her to death. As they've caught

and killed scores. Cautiously looking forward. The gentleman was able to perceive the cause of the dog's danger. Pile the poor widow's half-cord of wood and shovel a path. Carraway, parasol, scissors, naughty, feathers. FRENCH DICTATION: Deuxieme livre de lecteure, page 99. Il n'y avait....se retirer.

CLASS III.

The yeoman caught the weasel. The bilious mason hid the razor in the tepid syrup. The ruffian fractured the chaplain's limb. The cavalier perceives you grieve for the seine the sheriff concealed in the puncheon. Book 3, page 103: Jacko's.....web-spinner. Book 3, page 69: Before Mr. Dicey's....heavily. FRENCH DICTATION; Troisieme livre de lecteure, page 35: Un autre se....tintamarre supplementaire.

CLASS IV.

The mattress was left on a trellis. The battalion of grenadier guards was embarrassed. Pharisees were known by their phylacteries. The scandalous conduct of the vagabond was impassible. The loquacious librarian unveiled the statue. Book 4, page 239: After the banquet....fresh actively. FRENCH DICTATION; Quatrieme livre de lecteure, page 42: La langue Française....meilleure bien.

CLASS IV.

HISTORY.

1. Sketch the events in the reign of Alfred the Great.
2. Sketch the Danish rule in Britain.
3. Explain interdict, impeachment, bill of attainder, solemn league and covenant, habeas corpus, petition of right, dissenters, Jacobites, corn laws, Quebec act.
4. What demands were made by the chartists, and which of these are now law in Canada?
5. Sketch the life of Lord Palmerston, Sir Wm. Pitt, Duke of Wellington, Lord Clive, Robert Walpole.
6. Sketch the principal events in Canada since 1840.

CLASS II.

GEOGRAPHY.

1. Define isthmus, ocean, capital, river, cape.
2. Name the provinces in Canada, and state the capital of each.
3. Locate Georgian Bay, Gulf of Mexico, Newfoundland, Vancouver Island, City of Ottawa.
4. Name the cities in Ontario.
5. Name the lakes in the chain of lakes between Canada and the United States, and state how they are connected.
6. Name three rivers in Canada, and state into what they empty.

CLASS III.

1. Locate the following cities: Quebec, Halifax, New York, New Orleans, Chicago.
2. Give position of the following islands: Cuba, Allumette, Vancouver, Manitoulin, Wolfe.
3. Name the towns and cities on the Canada Southern Railway.
4. Give the boundaries of Ontario and of Nova Scotia.
5. Draw a map of Essex county, locating the towns and villages.

CLASS IV.

1. Give exact positions of Capes Blanco, Pillar, Aguja, Catoche, Lookout, Fear.
2. Name the chief cities and towns on the Grand Trunk Railroad.
3. Describe the physical features of Ontario.
4. Locate exactly Orillia, Whitby, Brockville, Three Rivers, Bracebridge, Picton.
5. Draw a map of the part of the United States east of the Alleghany Mountains, locating the cities, bays, capes, and rivers.

CLASS III.

GRAMMAR.

1. Define gender, plural number, adverb, pronoun.
2. Parse:—

My father lived at Blenheim then,
Yon little stream hard by;
They burnt his dwelling to the ground,
And he was forced to fly.

3. Analyze:—

The village preacher's modest mansion rose near
yonder copse.
In happy homes he saw the light
Of household fires gleam warm and bright.

Sentence. | Kind. | Subject. | Complement. | Predicate. | Completion. | Extension.

4. Correct where necessary:—He wont give me none of his flowers. A boy like James and John will succeed. What did they go for to do? This is him we mean. He had went a mile before he seen his mistake. The childrens' supper is near ready.
5. Give the plurals of penny, fife, knife, key, lily, hero, sheep, pea, genus.

CLASS IV.

1. Mention feminine nouns that have no corresponding masculine.
2. Give the plural of court-martial, aide-de-camp, lord mayor.
3. Give plurals, with their different meanings, of CUSTOM, PAIN.
4. Define case. State when the possessive is formed by adding an apostrophe only.
5. Parse words in small capitals:—He said THAT it was GOOD. He came THE SHORTEST WAY. This apple is fit TO EAT.

FOUR long years of mingled feelings,
Half in rest and HALF in strife.
I have seen thy waters STEALING
ONWARD, like the STREAM of life.

6. Analyze:—Shylock, being a hard-hearted man, exacted the payment of the money he lent with such severity that he was much disliked by all good men.

CLASS I.

WRITING.

1. Write the first ten capital letters.
2. Write your name and place of residence.
3. Write "The good alone are happy."

CLASS II.

1. Write the capital letters from L to Z inclusive.
2. Write your name and place of residence.
3. Write from Book II., page 43, first stanza.

CLASS III.

1. Write all the capital letters.
2. Write your name and place of residence.
3. Write from Book III., page 143, from "He was trudging.... his escape."

CLASS IV.

1. Write all the capital letters.
2. Write your name and place of residence.
3. Write from Book IV., page 144, first sentence of "The Buccaneers."

CLASS II.

COMPOSITION.

1. Write the following words so that each one of them will mean more than one:—Pony, mother, man, buggy, loaf.
2. Mention some things made of paper, cloth, iron, gold, wool, wood.
3. Write each of the following words to show that something belongs to the thing named:—King, man, boots, horse, James.
4. Write your initials and your address.
5. What have you learned about the use of capital letters?
6. Write a composition of at least ten lines on WINTER.

CLASS III.

1. Write sentences using SIT, SET, LIE, LAY, RISE, and RAISE correctly.

2. What caution should you observe in the use of DONE, SEEN, and GONE.
3. What have you learned about the use of the comma and period in the address of a letter?
4. Draw a diagram of an envelope, and show where you would place the address, &c., on it.
5. Write the heading, address, and salutation of a letter to be sent from your home to-day to James Thomas, London, Ont.
6. Write a composition of at least ten lines on WINTER.

CLASS IV.

1. State what you have learned about the use of the semicolon, colon, and dash.
2. Correct errors in the following:—Can he run? Was you there? He is nicely, and she looks handsomely. Either he or I are willing to go. A public dinner was given to the inhabitants of roast beef and plum pudding.
3. Write and punctuate correctly a suitable heading and address for a letter to be sent from here to-day.
4. Punctuate "I returned slowly home my head a little fatigued but my heart content."
5. Paraphrase from Book IV., page 321, 1st stanza of "Burial of Moses."
6. Change the following compound sentence into a simple one: "The sun shone cheerfully in at the parlor windows, and seemed to promise fair for a fine day."

TEMPERANCE.

1. What is alcohol?
2. How is alcohol made?
3. What happens when food is put into a bottle with alcohol?
4. What effect has alcohol on the human system?
5. Why should we endeavor to prevent the sale of alcohol?
6. What did Solomon say about the use of wine?
7. What effect has the use of alcohol on the amount of crime in the country?
8. Give reasons why alcohol is not considered a food.
9. What facts prove that alcohol assists cold in enfeebling or destroying life?
10. Why is so-called temperance without abstinence an insufficient safeguard against danger of excess?

Practical Department.

TEACHING, A SCIENCE.

Is there a science of teaching? Whatever may be the answer to this question, it will be generally conceded that there are but few scientific teachers. The number who can give a reason for their methods of procedure that would be deemed satisfactory by a mind accustomed to apply the tests of scientific reasoning to his conclusions, is painfully small. One would need no other evidence than is presented in the discussion of topics in our educational associations, to prove the general want of scientific knowledge of their vocation among teachers. And what is most remarkable is that many of those occupying the most conspicuous positions in the schools, and who have served the public long and faithfully, manifest in their treatment of educational problems so little of that power of analytic reasoning which scientific investigation demands. Judged by our discussions and papers, we would seem to be ignorant of the elementary principles of a science of teaching. This can be explained only by the fact that there is no real belief in the existence of such a science. It is a mythical something, much talked about, but never seen except by a few "impracticals" who are forever talking in an unknown tongue. Any educational discussion that seeks to find bottom reasons for processes pursued is "abstract and tiresome." "Give us something *practical*" is the demand. As if it were not the most practical thing in the world to find out the truth and error in our methods of procedure. There are some who are beginning to grow gray in the service, but who have made no other study of their profession than the observation of the results of certain experiments, but have attained some valuable "practical" knowledge in this way, who are impatient with any effort at a scientific investigation of educational questions.

Every science must have its peculiar technic. There are many ideas peculiar to it that only technical terms will name. The law and medicine have them, and without them the discussion of legal and medical questions is not carried on. All of the natural sciences and the sciences of man have them, and could not be expressed without them. Whenever the mind, in the study of any science, seizes one of these peculiar ideas it looks out for some peculiar word to express it. Scientific knowledge is not repulsive to the master of that science. None other would be endurable to him, because of its inadequacy to express the thought. It is only when there is insufficient knowledge of the science to see the necessity for technical terms that they are repulsive.

There is another pernicious heresy which we have heard advocated by persons of large influence in educational affairs. It is that the teacher is not to consciously pursue a scientific method in his teaching. He is told that it is all well enough to make a scientific study of method in his preparation in the normal school, but when he comes into the practice of teaching he must forget all this and throw himself into his work with that self-abandon which will drive out of his consciousness all thought of the *way* he is doing his work. What nonsense! It is only when the mind has become habituated by conscious and repeated effort to the pursuit of truth by the proper method that it can be safely left to its spontaneous action.

We hold that there is a science of teaching; that it consists of a body of ideas, many of which are peculiar to and characteristic of the science; that there is need, therefore, of the use of technical terms to express these ideas; and that the use of these terms to express these ideas is a great aid to clearness of thought in this science.—*Indiana School Journal.*

TEACHERS' READING.

MARY A. WEST.

"As a man thinketh, so is he;" as a man readeth, so doth he think.

In selecting a teacher for our young people, we care more to know what books he habitually reads now, than what books he studied in college. He studied what was in the curriculum; he reads what he chooses to read, hence his reading is the better criterion by which to judge of his habits of thinking. And this is a vital thing; as Isaac Taylor truly says: "All knowledge, without thinking, is only splendid ignorance." If one would-be teacher reads only newspapers and the higher forms of literature, however ready and even brilliant he may seem in conversation, he is a superficial thinker, and will leave the impress of his habits of thinking upon his pupils; on the other hand, if he deals only with the "weightier matters of the law," if all his leisure hours are given to abstruse studies, his habits of thought will withdraw him from companionship and sympathy with his pupils; he will seem too much "a philosopher" to be their "guide and friend." Instead of leading them to love good reading, he will probably be voted a bore.

A teacher should never study, or read, or think, himself, out of sympathy with bounding young life; on the other hand, his standard of reading and thinking should be pure and high, and his sympathy with his pupils so perfect that they are drawn up to it.

Vitiated taste in reading is as deleterious to mind and heart as is a taste for alcoholic liquors to the body, and should be just as strictly guarded against. That such tastes are formed by boys and girls, in spite of all the wealth of literature our mother tongue affords, is proof that "somebody blundered," where to blunder is a crime.

Usually the fault is in home training, or the lack of it; but whether the beginnings are at home or in the school, the bitter waters flow on, polluting both home and school. Teachers can and ought to do much to purify and sweeten them.

What a teacher is affects his pupils more than what he says or does; so what he reads affects them more than what he tells them to read. As he deals with human souls, nothing which concerns man can be without interest to the true teacher; hence his reading will include the humanities, technically so called, and give large space to biography and history, history that is really history of people and not bloodstained chronicles of carnage. The field thus opened is so wide that cultivated taste, enlightened judgment, and conscience must be exercised in choosing subjects and epochs. There are biographies of good men and of bad; biographies which make their subjects seem living, loving, acting men and women; others that relegate them to the realm of ghosts or of dry bones. There are histories which give a mere succession of dry facts, without logical sequence or connection. There are others which make past time live before us and reveal the subtle threads running through all, binding all together into the beautiful philosophy of history. Life is too short and time too precious to be wasted on the one class of writings; while the other class no one can afford to neglect.

Each year natural science is entering more and more largely into human life, hence it should be included in a teacher's reading. Higher than this is the consideration that it is a grand thing, as Agassiz says, "to think God's thoughts after Him," as we do while teaching his works in nature.

The Bible should be familiar to every teacher. Nowhere else will he find character painting so true, morality so pure, man's duty to his fellows and his God so thoughtfully and impressively set forth.

The teacher's reading should include the standard classics, English and foreign-tongued. He cannot afford to be without their formative power upon his mind and his literary style. Plato and Socrates, Homer, Horace, and Virgil, rare Ben Jonson, silver-tongued Addison, strong, quaint John Bunyan, Spenser, Chaucer, Shakespeare, and all that bright galaxy form a goodly company from which he should not exclude himself.

All good things are not old, and the teacher whose reading does not include the writers of the present century is not fit to be in charge of embryo American citizens. They deal with live issues of to-day, as well as those broad themes underlying all humanity.

It is easier to interest young people in reading authors who have lived during their own lifetime, and write of things with which they are familiar, than those dead a century ago.

The surest and pleasantest way of arousing and cultivating a love of good reading in our pupils is to introduce them first to the writers of our own country and times.

Let Bryant lead them by the banks of Green river, out into the groves which were God's first temples, bidding them watch the water-fowl, guided by

> "A power whose care
> Teaches his way along that pathless coast;
> The desert and illimitable air,
> Lone, wandering, but not lost."

Or teach them to listen to the song of "Robert of Lincoln;" speak to their hearts in quieter moments through the "Forest Hymn," or the "Death of the Flowers," or lead them through "The Portal" into the solemn grandeur of "Thanatopsis." Let Whittier come into the life of every "Barefoot Boy" as a beneficent presence; let his "Voices of Freedom" thrill their young hearts, and his grand "Centennial Hymn" inspire them with love for their country and their country's God; let his "Songs of Labor" make work honorable in their eyes; his "Home Ballads" speak to them of purity, and love, and peace; his "In War Time" and "National Lyrics" arouse them to high souled patriotism, and communion with his reverent, loving heart draw them

> "Too near to God for doubt or fear,"

even in the midst of fierce battling with oppression and sin.

Introduce them to Longfellow in the sweet quiet of "The Children's Hour;" let them listen with him to the ticking of the "Old Clock on the Stair," or watch the sparks fly from the forge of "The Village Blacksmith"; let them follow "Evangeline" through her weary wanderings to the pathos of her lover's death-bed, while their young hearts burn with indignation at the atrocity which Acadia suffered; let them plant with him the apple tree, and launch with him the ship, explore prairie and forest with Hiawatha, take that midnight ride with "Paul Revere," and listen to his "Tales of a Way-side Inn."

Let them learn to love Irving by laughing with him over the quaint mishaps of "The Knickerbocker," roaming with him through the great prairies of the west, and through the Alhambra, and they will need no urging to read his "Columbus," or "Washington." Utilize this centennial year of his birth to fix him more deeply in their hearts.

In a similar way make Motley, Prescott, Cooper, Mrs. Sigourney, and others, on both sides of the sea, seem familiar friends to our young people, and we need not so much fear the influence of the Jesse James and Buffalo Bill style of literature.

Often our pupils are with us so short a time that we cannot do for them all we wish. But few are with us such a little while that we cannot teach them to know and love *one* really good poet, and this may sweeten all their lives. I would rather a pupil left school with a thorough appreciation of, and love for, Gray's "Elegy," Longfellow's "Psalm of Life," Shelley's "Skylark," Whittier's "Prayer of Agassiz," his "My Psalm," or "The River Path," Bryant's "Thanatopsis," Milton's "Ode to Light," Tennyson's "Margaret," or Spenser's Una in "Fairie Queen," than to be able to speak in unknown tongues, without this accomplishment.—*The Present Age.*

Notes and News.

ONTARIO.

The following is the report of attendance of pupils at the Perth public school for the month of February, 1883:—

Division.	*No. on Roll.*	*Average.*
No. 1	56	47
2	47	40
3	59	53
5	56	49
5	52	46
6	48	43
7	50	43
	368	321

Increase over January 7
Increase over February, 1882 34

Mr. Moir, principal of the St. Mary's public school, has recently made a vigorous attack on the collegiate institute of that town, chiefly from the financial side. Mr. Poole, chairman of the institute board, has replied on behalf of higher education with equal vigor. The ratepayers seem to take the matter coolly. The controversy grew out of a grant of some $200 or $300 made by the public school board for the support of a fifth class.

As a city contemporary very properly remarks, "There is probably no country in the world that is blest with a better school system than Ontario possesses. A good, sound, practical education is within the reach of the children of the poorest man in the land, while a collegiate education may be had at a small outlay as compared with the cost of similar training in the old country." It is probable that, before the end of the present century, the people of Ontario, if the present school system be continued, will be the most generally educated community on this continent, or even perhaps in the world. At all events, we think they will have no superiors in this respect. But there is one blemish in the system which ought to be corrected, as a matter at once of justice and expediency. The average salary of teachers is too low, especially of the female teachers. The average for males in counties is only $384. It hence follows that many of the male teachers in the counties must be receiving considerably less than the small sum named; that is to say, far less than a mechanic of average skill would earn at his trade. The average paid to female teachers is still less, and is not sufficient to maintain them comfortably. It is not just, and certainly it is not expedient that educated men and women, who have devoted several years to the acquiring of the necessary knowledge of their profession, should be paid such starvation salaries as the figures quoted above show that the great majority of them must be receiving. This is economy in the wrong place, if indeed it deserves the name of economy. It would be better named penuriousness of the meanest sort. Boards of trustees should pay righteous salaries, which would be in proportion to the work performed. We do not think the salary of any properly qualified male teacher should be less than $500 a year, or of a female teacher than $400.—*St. Mary's Argus.*

Mr. Shakespeare, M.P., for Victoria, B.C., paid a visit to the Ontario Business College, Belleville, on a recent occasion, and was not only delighted with the thoroughness of the course of instruction, but astonished at the magnitude of the attendance and the distances from which students come to avail themselves of its advantages. Victoria, he says, is ahead of Belleville in streets and sidewalks, but the latter's public institutions, (especially the Deaf and Dumb Institute, the Commercial College, and Albert College) and public buildings, are far ahead of those of the capital of the Pacific Province.

Rumors compromising the credit of Rev. Dr. Darnell, of Dufferin College, have for some time been current, but they are now taking the form of fact. It is learned that remittances from parents to purchase clothing for the boys have been retained by the doctor, and the goods ordered on credit. May other stories of a similar character are told of the doctor's career in the city (London). His creditors are exceedingly numerous, and many of the sums due are quite large, reaching in one case as high as $600.

At a meeting of the Hamilton board of education held lately, two petitions from the teachers in the employ of the board, asking for an increase of salary, were presented. The petitions from the teachers in the public schools set forth: 1st, That while the cost of living had greatly increased, their salaries had not increased in proportion; 2nd, That within the last ten years the average salary paid throughout the county of Wentworth had increased about 25 per cent., while that of the city teachers remains almost the same; 3rd, That the salaries are lower than those in the following cities and towns of the province where the cost of living may be supposed to be on an equality with that of Hamilton. In proof of this the appended list was respectfully submitted: Hamilton, lowest grade, $200, graded to $425 for 9th grade work. Toronto, lowest grade $365, graded to $575 for 9th grade work. Ottawa, lowest grade $350, graded to $450 for 7th grade work. St. Catharines, lowest grade $264, graded to $500 for 9th grade work. London, lowest grade $250, graded to $500 for 9th grade work. Galt and Sarnia, lowest grade $250, graded upwards.

Mr. Welliver, a student-in-training at the Normal school, Toronto, and lately a teacher near Berlin, died during the present session. He was an athletic man in the bloom of youth, but was carried off in a few days by inflammation of the lungs. This sad event cast a gloom over the class for many days. Mr. Welliver's parents reside near St. Thomas.

English school journals are discussing the propriety of abolishing corporal punishment. The abolitionists seem to be hopelessly in the minority, but several wise restrictions have been enforced in some of the board schools. How will this matter stand at the close of the 20th century?

A pupil of the Walkerton public school has produced the following composition on the cow: "The cow is animal with 4 legs and 1 tail and 2 ears and 1 nose and 2 nostrals, and so fourth. Milk is extracted from her by a scurous moshun of the hands, not the cow's hands but a persons hands. Her flesh is good to eat and her horns are good to prick holes in a boy and her hind legs to lift a boy over the fence or shove him through the wall or step in the milk pail, &c., &c." That pupil deserves promotion.

Mr. Hughes, public school inspector, of Toronto, has been lecturing on the Phonic method of teaching reading, on Saturday forenoons during the past month. The lectures have been given for the benefit of those teachers who were unable to attend Mr. Hughes' lectures to the students of the city model school. They have been largely attended, and at their conclusion a hearty vote of thanks was tendered to Mr. Hughes, and he was requested to continue his lessons on the subjects of "Language Lessons," and "How to teach Drill and Calisthenics."

The lady principal of Hellmuth College, London, Miss Clinton, who has been connected with this college since its opening in 1869, and filled with credit the position of lady principal and musical directress, has accepted a position in the Cheltenham Ladies' College. The college authorities have secured the services of two ladies from the Royal Academy of Music, London, England, of pronounced ability as pianists and vocalists. Miss Wright, who has been the popular lady superintendent for the last seven years, is to succeed Miss Clinton as lady principal.

Rev. J. W. A. Stewart, M.A., gold medallist in metaphysics at Toronto University '76, has been appointed professor in McMaster Hall, the Baptist college in Toronto in affiliation with the University.

Dr. Darnell, principal of Dufferin college, whose troubles in London we previously noted suddenly departed from that city on a visit to our cousins over the water. He left liabilites amounting to $6000 or $7000, assets about five cents on the dollar. He has since been heard from in New York.

It has been proposed to hold an institute in this city for four weeks during the holidays for the benefit of county model school masters. We have not been able to learn that any steps have been taken to carry out the proposal. If first class talent were secured it would result in immense good to the profession.

A lady teacher in New York asked to have her salary increased to $5000 at least, on the ground that a celebrated *cantatrice* was earning much more than that sum by her voice, the same means by which the lady earns hers. She claims that teaching is more important than singing, education than amusement, and ought to be paid for in proportion to its importance. Let those who laugh at her demand point out the fallacy in her argument.

The Toronto school board has set an example to the boards of the province by dealing in a liberal spirit with the teachers in their employ. The salaries of the female teachers were increased fifty dollars each during the present year, except in the lowest grades. The salaries of the female assistant teachers now run from $365 to to $600 per annum. The salaries of head masters range from $750 to $1200.

Col. Parker, of Boston, late superintendent of Quincy, has published a short sketch of his methods—a very good book for live teachers to read.

Foot-ball seems to hold its ground among the high schools of the western peninsula, Berlin being the head centre of the kick-off under association rules.

Swings and other gymnastic apparatus in covered sheds should be provided at every high school for the girls. Agitate, fair friends, agitate, and you are sure to get them. The country is wealthy enough. Organise the campaign and make your wants known. The JOURNAL will second the movement.

Warren Rock, Esq., Q.C., whose death occured sudddenly at London recently, was at one time assistant master in the provincial model school, Toronto, where he was distinguished for zeal and energy. Old pupils still speak enthusiastically of the stirring addresses he was wont to make to the school. The true spirit of the teacher was in him, they say, and impressed his pupils more deeply than mere grammar and arithmetic. Truly it is the spirit and earnestness of a teacher that alone can accomplish work that will outlast the pyramids. Let us build for eternity.

The Toronto school board take the lead in supplementing the pensions paid to retiring teachers from the superannuation fund. They offer Messrs. Coyne and Spotton, two of their oldest teachers, a retiring allowance of $250 each, per annum. The public will not complain about the liberal treatment of faithful servants, whose lives have been spent in the public interest.

Dr. McLellan Senior High School Inspector, lectured in the Walkerton High School Hall, on Friday Evening last, before a large audience. The learned doctor spoke for about two hours on the general subject of education, referring especially to its practical aspect in the relation between teacher and pupil. He opposed the idea of severity in the school-room, and impressed upon his hearers the importance of sympathy and kindness, as a means of stimulating and developing the character of children, as well as the training of their intellectual faculties. He condemned the common idea that education consists of the training of the intellect alone, and held that the sentiments and moral nature of children should be developed in the school-room, as well as their minds. As a means to this end, none but teachers of good principles should be employed. He also maintained good scholarship was as requisite in the teaching of young children, as in those of larger growth. The more learning possessed by teachers, the better they would instruct even the most youthful pupils. He advocated the payment of good salaries and the encouragement of teachers by parents and trustees. The learned doctor frequently grew eloquent, and concluded an excellent discourse by a poetical recitation.—*Bruce Herald.*

The mathematical department of Owen Sound high school is in charge of Mr. Carry, whose teaching is said to be particularly forcible and impressive.

The Orangeville high school is gathering impetus under the able management of Mr. Steele. We are particularly gratified to hear of the extent to which the reading of solid literature prevails among the students. The establishment of a good school library and a vigorous literary society are rapidly diffusing a taste for good reading which must prove a powerful auxiliary to the work of the school.

Ridgetown, Co. of Kent, is agitating for the establishment of a new school building, costing some $12,000, in part of which the high school could be located. Demagogues who decry secondary education with a view to popularity, can neither discern the signs of the times nor read the heart of this people. Meaford is agitating for a new high school. Brussels and Wingham have discussed the question seriously for some years. Every well-to-do farmer is anxious to give his children a year or two at the "people's college."

The St. Thomas collegiate institute is reported to be thriving better than at any preceding part of its history.

"I have been much pleased with the many very excellent papers which have appeared in the JOURNAL during the past year, and for this I am sure the educational staff of Ontario as a whole are really grateful,"—*G. Strauchon, High School, Woodstock.* "We find the SCHOOL JOURNAL just what a young teacher needs. We find the promotion papers a great aid."—*L. M. Thibaudeau, Rydal Bank.* The above are specimens of many kind letters we are continually receiving.

The St. Mary's *Argus* has the following: "Dr McLellan visited the St. Mary's collegiate institute last Thursday. After having inspected the various classes in the school he collected the students in the Intermediate room and gave them an excellent lecture on Work. Dr. McLellan expressed himself as highly pleased with the general tone of the school and especially with the strict attention paid to the various teachers."

The town of Niagara is well supplied with educational institutions. Excellent work is being done in its pretty and beautifully situated high school. Its indefatigable head master, Mr. A. Andrews, (who was for some years connected with the public press), has a large class making good progress in the study of phonetic shorthand. In addition to this, time is found every week to devote an hour to recitations, and an hour to the practical execution of fancy work. The results obtained by this small expenditure of time in something outside the ordinary routine of school work, are surprising, and would be well worth the attention of many engaged in the work of education. The excellent order in which the neat brick school house, its surrounding shade trees and gay flower beds are kept, testifies to the pride which both teachers and scholars take in their school.

"The whole tone and tendency of our educational system as in vogue at present, and far too much even in the common schools, is in the direction away from the farm and the work-shop. Every branch studied is simply and solely pursued in order to qualify for a higher education—for a teacher's certificate, for entrance into a higher institute of learning, a professorship, or for the learned profession. A thought is scarcely given to the simplest subject of common life, or to the simplest elements of domestic and political economy or to finance. These are all ignored and practically treated with contempt, by our teachers and educators. Agriculture, too, is entirely ignored. As a result of this system, our young men attending the high and public schools, fired with ambition to climb the educational ladder, and with their mind full of mathematics, astronomy, classics, poetry, literature, &c., soon beget a contempt for the common worldly affairs of life,—the toils of the laborers and the tillers, and aspiring to some sort of ideal life, which exists only in youth's fancy, and which is fed by the studies pursued and their general surrounding at school." Thus sweetly discourses "Spectator" in the *Bruce Herald.* He evidently believes in the Chinese plan of building a house from the top downwards. He says, "From these facts I conclude that as a people, we have gone to extremes in the matter of education, that the state should only provide a common school education, that that education should be more *practical and less theoretical, and should embrace the elements of political and domestic economy, the laws of finance and commerce, agriculture,* &c., and especially should children early be taught the principles and simple rules which conduce to success in life, as well as the more common causes which militate against success and end in failure and financial and moral ruin."

It is much to be regretted that so flourishing a town as Alliston should not provide for its school a better building than the wooden edifice in which it is now held. Under the energetic management of Mr. Chadwick, assisted by Misses Burnie and McDonald, the school is doing excellent work. A short time since Mr. Chadwick was offered the head mastership of the Ottawa public school, but declined it as he could not leave his present position in time to enter on duties there, without endangering the interests of the Alliston school and inconveniencing the trustees. We hope that such honorable attention to the interests of the school will be duly appreciated.

Excellent work is being done in the Oakville high school under the energetic managemement of Mr. N. J. Wellwood, assisted by Dr. C. H. Lusk, whose connection with the school has extended over a considerable number of years. Among other commendable features the school has a convenient and well fitted laboratory for the use of the pupils. The Oakville public schools is also in a flourishing condition. It has a commodious building with five rooms. About 350 children are in attendance and are making most satisfactory progress under the tuition of the able principal, Mr. N. Husband, assisted by Misses Rodgers, Ganton, Taylor, and Beals.

If the children attending the Burlington public school do not develope a taste for natural science, it will not be the fault of their pains-taking head master, Mr. R. Coates. In connection with the school he has quite a collection of moths and butterflies in different stages of development, and the scholars take great interest in collecting specimens and watching the wonderful changes which take place during the growth of these insects. In addition to its entymological collection the school is provided with a laboratory, electric battery, and magic lantern. Mr. Coates is ably assisted by Misses J. and A. McQuire, M. Allen, and F. Misner.

The high school at Waterdown keeps up the excellent character it has so long borne for sending successful candidates to the university and other examinations. D. H. Hunter, B.A., who has conducted the school with such marked success for some years is ably assisted by W. T. Jones, B.A. Though this gentleman entered on school work less than a year ago he displays exceptional power and promises to rise to the foremost ranks of the profession.

The walls of the commodious and beautifully situated public school of Waterdown are tastefully decorated with drawings and maps executed by the scholars. Mr. Stevenson, the head master, is not merely teaching the childing to draw, but is developing real artistic power and taste among them. He is ably assisted in the management of the school by Misses M. Fraser, H. J. McMonies, and M. Cleaves.

The CANADA SCHOOL JOURNAL to hand with plenty of fine educational matter and mathematical problems for examinations.—*Georgetown Herald.*

The Waterdown high school literary society is a flourishing institution, and reflects great credit on the teachers of both high and public schools, who are most active in carrying on its work. Its entertainments have provided funds for supplying the public school with prizes and establishing a good reference library for the scholars of the high school. Its weekly meetings are well attended and interesting. At that held on Friday, May 18th, after some good recitations, essays, and musical selections had been given, there was a lively debate on the question of "Home Rule for Ireland." After some excellent speeches on both sides it was decided that Home Rule should not be granted to the Irish people.

Smithville high school is earning honors for itself. One of its scholars, S. A. Morgan, has matriculated at Toronto university. Out of about 35 scholars, 18 are this year preparing for the intermediate examination. Last year out of 8 presented 6 passed. These facts say a great deal for the energy and ability of Mr. A. C. Crosby, the head master, and his assistant, Mr. Hamilton.

The high school literary society at Beamsville has been stirring during the winter months. As a result of the entertainments it has given, Mr. Avely, the energetic head master, has been able to make considerable additions to the school reference library. Amongst the works added may be mentioned Worcester's Dictionary and Chambers' Encyclopædia.

The Niagara public school under Mr. Geo. Cork, is in a flourishing condition. The separate school was given up about two years ago, and since that time children of Roman Catholic parents have been learning side by side with those of Protestants, and the arrangement is working harmoniously. Niagara has also a flourishing literary society in connection with its high school. The membership during the winter months has been over 60, and the fortnightly meetings have been well attended. A most successful public entertainment was recently given under its auspices in the music hall. A magic lantern entertainment is to be given shortly by the Rev. A. Andrews, of Kincardine, (brother to the head master), the proceeds of which are to be devoted to the purchase of a magic lantern for the use of the society, which has by its past efforts managed to become possessed of a handsome organ.

Few towns of the size can boast a finer library than that in connection with the Mechanics' Institute at Niagara. It has 3,000 volumes, and the works are conveniently classified to facilitate selection and reference. A catalogue has been drawn up and printed on the printogram by Mr. A. Andrews and some of the younger members of his family, and is a wonderful example of perseverance and care.

Later we learn that Rev. J. W. V. Stewart, has decided not to accept the professorship in McMaster Hall, Toronto.

In Chatsworth public school good work is being done by Miss Boddy, assisted by Miss Mackenzie. The junior department is over-crowded, and for hygienic reasons the room should be enlarged.

The staff in Richmond Hill high school was increased last March by the appointment of Mr. E. F. Langstaff as second assistant. Mr. Langstaff is a scholarship man of Toronto university.

The local examinations for women in connection with Toronto university, are to be held in Richmond Hill high school this year They were held there last year and, of the seven who presented themselves, not a single one failed.

During the last school year, Richmond Hill high school sent up 13 candidates to the various universities and every one passed.

High school inspector, J. A. McLellan, LL.D., has given a very satisfactory report of Goderich high school in which he states that "Mr. Halls' classes did exceedingly well, as did also the principal's classes. The discipline is good, and the general tone of the school is very excellent." Good work deserves good pay and it is gratifying to see that the salaries of the teachers in the high school were raised, Mr. Halls receiving $100 increase and Mr. Moore and Miss Oliver $50 each additional, to take effect from the commencement of the year.

Mr. A. H. Watson, B.A., English master Richmond Hill high school, has just been appointed head master of Vanleek Hill high school at an initial salary of $800.

Mr. John McBride, B.A., head master of Newcastle high school, received the degree of B.Sc., at the recent convocation of Victoria university.

Mr. A. Ego has been recently appointed head master of the East Ward public school, Collingwood, and is earning golden opinions by his diligent and effective work. He is well assisted by Miss H. Burdet.

The Canada Business College, Hamilton, will conduct a special class for teachers in book-keeping, penmanship, and shorthand, during the approaching summer vacation. From the excellent reputation of the college, and the very practical nature of the course of instruction, it will evidently be well attended. These classes have been largely patronized heretofore and have given the highest satisfaction.

Mr. John Whyte, assisted by Miss Cole, is keeping the public school at Clarksburg abreast of the times. Mr. Whyte is reputed to be an energetic and diligent teacher.

There are few schools in the province, if any, superior to the Centre Ward School, Collingwood, in writing. The pupils' copy books are a credit to themselves and to the talented head master, Mr. E. Ward. Under this gentleman's effective teaching a large increase has been observed in the numbers passed at entrance examinations, since his appointment.

The West Ward school, Collingwood, under the management of Mr. F. Chislitt, is too much crowded. This complaint affects all the schools, but it is said that the school board are about to build a large central school which will lead to a general reorganization of the schools.

The staff of Barrie collegiate institute consists of five masters, the last appointment being that of Mr. Samuel Barton, an Honor mathematical man of Toronto university, to the position of assistant mathematical master. The attendance the present half-year is 160, and the number of candidates for the intermediate and other examinations is very large. The university class numbers 9. On the whole, the year now drawing to a close has been one of the most successful in the history of the school. During the year the literary society has shown great activity and has been able to purchase an excellent piano wherewith to enliven their weekly meetings. The building is beautifully situated and the internal arrangements are all that can be desired. The principal, H. B. Spotton, M.A., F.L.S., enjoys the highest reputation in his profession, and is well-known as one of the authors of the popular school text-book on Botany.

Mr. E. R. Hutt, the active head master of the Port Dalhousie public school, gives his scholars regular lessons in sight singing with most satisfactory results. The school is well up to the mark in other respects; eight pupils are preparing for the entrance examination. Mr. Hutt, and his assistants, Misses Wilkinson and McDonald, are to be congratulated on the satisfactory state of the school.

Mr. Anderson has recently undertaken the head mastership of the separate school at Port Dalhousie, and under his instruction excellent work is being done.

We are glad to notice from a circular issued by the high school board that to encourage diligent preparation of pupils intending to enter the high school by competing at the entrance examination to be held on 29th and 30th June next, they will give three prizes of fifteen, ten, and five dollars respectively to the three pupils who shall be found to have gained the highest number of marks. This is worth looking after and we hope it will tend to raise the scholarship of candidates a degree or two beyond the past attainments.—*Woodstock Sentinel-Review.*

Mr. T. Fraser was appointed to the head mastership of Owen Sound public school in the room of Mr. Greig who has gone to the North west. Under his management the school is prospering. The attendance is over 500, under the care of 12 teachers. About 30 pupils are preparing for entrance examination.

In the model school, Meaford, which is under the efficient head mastership of Mr. A. H. Stephen, educational matters are in a prosperous condition. Mr. M. Mackinnon, the second master, is highly esteemed as a successful teacher, and in the several departments, good order prevails and sound instruction is given. The assistants, viz: Misses Tolton, Burns, M. Sheppard, S Sheppard, and J. McDonald are energetic teachers.

In Thornbury public school, Mr. A. Cameron, the head master, has reorganized the classes and placed school business on an excellent basis. He is ably assisted by Mr. A. Henderson, Mrs. Hurlburt, and Miss Sutherland. Mr. Henderson is a very successful teacher of music and the school singing is brought to a high state of efficiency. Four pupils are preparing for intermediate examination and several for entrance.

There are five ladies now attending the Ontario Business College, Belleville—two of whom are from Picton. Students are coming in every day, and the attendance on the whole for April has been larger than during any corresponding period in the history of the institution.—*Daily Ontario.*

MANITOBA.

The death of James Haldane Stewart which occured some time ago, was very generally regretted. During the year 1881 he filled the position of Inspector of the Winnipeg schools in a most satisfactory manner. During the past year he has been Secretary-Treasurer of board of school trustees. In October last he was appointed a member of the board of education. He was one of the committee appointed by the Protestant section of the board of education to examine and classify pupils of collegiate departments. At a recent meeting of the last mentioned body the following minute was, on motion of Ven. Archdeacon Pinkham, unanimously adopted, and a copy of it ordered to be engrossed and sent to Mrs. Stewart, viz: "That this board desires to express to the relatives of the late James H. Stewart, who has been one of its members since last October, its sympathy with them in their sad bereavement and its deep sense of the value of his services in connection with education in this Province."

The Rev. W. A. Barman has been appointed inspector of schools for the municipality of Dennis, and T. C. L. Armstrong, M.A., LL.B., for the schools in the vicinity of Winnipeg which Mr. Somerset, having his hands full in the city, has been obliged to resign.

The attendance of pupils in the city schools is rapidly increasing.

A number of new schools have already been opened this spring, and others are opening every week.

Rev. Geo. Young, D.D., has been appointed a member of the board of education instead of the Rev. S. D. Rice, D.D., who has resigned. Dr. Young was one of the first members.

The annual examination of the students, under the auspices of the University of Manitoba, commenced on 14th May. The examiners were the Bishop of Rupert's Land, Profs. Bryce, Hart, O'Meara, Cherrier, Matheson, Cloutier, Revs. A. Campbell, Farquharson, O. Fortin, and Doucet, and Messrs. T. C. L. Armstrong, J. H. Panton, H. Archibald, and R. Meloche. The students, with three exceptions, are from St. John's and Manitoba colleges. Sickness having interrupted the St. Boniface college term, no students have presented for examination. The non-collegiate students are Victor Latimer from Mr. Fawett's collegiate department, and John Davis and Charles H. Phillimore, from Rapid City. The students from St. John's college are: Final B.A.—James Bird; Junior B.A.—T. C. Coggs, D. Kirkby, J. Machray, W. E. Beddome, I. C. Fortin; Previous year—Alfred Cook, J. A. Macdonald, D. Pritchard, J. W. Matheson, Peter Wood, W. Nicolls. The following are the students from Manitoba college: Final B.A. year—David Anderson, Frank Brown, J. H. Mulvey, J. B. Code, W. M. Omand, Archibald McLaren; Junior B.A. year—A. W. Thompson, D. H. McVicar; Previous year—Charles Esplin, Xavier McPhillips, J. T. Huggard, A. McLean, W. C. Graham, W. A. McIntyre, R. Thompson, H. A. Stewart, Thos. Logie; Preliminary year—H. Quigley, A. Ferguson, A. N. McLeod, George McIvor, Arthur Bowman, Richard Lipsett.

The work on the new St. John's college is being pushed forward with great vigor.

The examinations for the degree of B.D., in St. John's college are just over. There were two candidates, viz: For the final, A. W. Goulding; for the preliminary, T. C. Coggs.

The Very Reverend John Grisdale, B.D., Dean of Rupert's Land, and Professor of Pastoral Theology in St. John's college, has just returned from a year's absence in England.

The effort now being made to raise funds for the support of a Theological Professor in Manitoba college, is meeting with much success.

Stewart Mulvey, Esq., chairman of the board of Protestant schoo trustees, Winnipeg, has just returned from his brief visit to Ontario.

NOVA SCOTIA.

The closing convocation of Dalhousie college took place in the assembly chamber of the Province building, on the afternoon of Wednesday, April 25th. The exercises were presided over by the very Rev. Principal Ross, D.D. His prefatory remarks sketched in an interesting manner the history and growth of the university. He alluded in fitting terms to the munificent bequest of the late Alexander McLeod, providing for three additional professorships; to the continued generosity of Mr. Munro, especially as displayed in founding a Chair of Law, around which as a centre a complete Law Faculty had already been organized; and to the steady and successful work of the session that day brought to a close. Prof. McDonald, secretary of the faculty, then read the pass list as follows:—*Faculty of Arts*, 4th year—Bell, Dickie, Fraser, Macdonald, J.A.; MacGregor, T.S., McLennan; 3rd year—Adams, Dill, Jones, Macdonald, D., McLeod, J. P., Murray; 2nd year—Aiton, Calkin, Lillie, B., Coffin, F. S., Crawford, Fitzpatriek, Gammell, Langille, Locke, McLean, J. M., McLeod, J. M., McKenzie, A. S., Martin, Newcombe, Margarete, Robinson, C. E., Thompson, A. W. Thompson, W. M., Tufts; 1st year—Allison, Cahan, Calder, J. Camp, Coffin, V. E., Larkin, Lewis, Macdonald, E. M., McKay, E., Mackay, N. F., Macrae, A. W., Morton, Nicholson, Read, R. L., Robinson, A., Smith, J. F., Stewart. *Faculty of Science*, 4th year—McColl, Reid, A. G.; 3rd year—Smith, H. M.; 2nd year—Campbell, G. G., Trueman, H.; 1st year—Saunders, Maria. Certificates of merit were issued as follows:—*Faculty of Arts*, 1st Class, 4th year—Bell, J. A.; 3rd year—Adams, H. S., McLeod, J. P., Murray, D. A.; 2nd year—Gammell, I., Martin, K. J., McKenzie, A. S., Robinson, G. E.; 1st year—Cahan, McKay, E., McKay, N. F., Robinson, A. 2nd Class, 4th year—Dickie, H., McLennan, J. W.; 3rd year—None; 2nd year—Aiton, W., Calkin, Lillie, B., Fitzpatrick H., McLeod, J. M., Newcombe, Margaret, Tuffts, W.; 1st year—Allison, M. G., Larkin, F. H., Lewis, A. W., Stewart, D. *Faculty of Science*, 1st Class, none; 2nd Class, 4th year—McColl, A.; 3rd year—Smith, H. M.; 1st year—Saunders, Maria, F. The following degrees were conferred: *Master of Arts*, Alfred Dickie, B.A., Stewiacke; *Bachelors of Arts, with Honors*, John Albert Bell, Halifax, James Alex. Macdonald, Halifax, Thomas Spear MacGregor, Little Bras d'Or; *Bachelor of Science, with Honors*, Arthur Gordon Reid, Halifax; *Ordinary Degree of Bachelor of Arts*, Henry Dickie, Upper Stewiacke, William Matheson Fraser B. Sc., Dartmouth, John William McLennan, Sydney, C. B.; *Ordinary Degree of Bachelor of Science*, Archibald McColl, New Glasgow. The prize awards for honors were delivered as follows: *Classics*, 2nd rank—John Albert Bell; *Mathematics and Physics*, 1st rank—Arthur Gordon Reid; 2nd rank—James Alexander Macdonald, Thomas Spear MacGregor; *Medals*—The Governor-General's gold medal, for the highest examination in classical honors, was won by Mr. J. A. Bell. Sir William Young's gold medal, for highest mathematical honors, was presented by him to Mr. Arthur G. Reid, explaining that it was substituted for the rhetoric prize he had formerly given. The Governor-General's silver medal, for second best mathematics, was awarded to Mr. J. A. Macdonald. The valedictory address, which was an exceedingly well-written production, was prepared by Mr. John A. Bell, of the graduating class, but read by Mr. John A. McLennan. Speeches were delivered by Rev. Louis H. Jordan, M.A., B.D., Chief Justice McDonald, and Sir William Young, ex-Chief Justice. The first named gentleman, who had not forgotten at Edinburgh and Leipsic his early affection for Dalhousie, made a vigorous appeal for a new collegiate edifice, worthy the endowments, the students, and the Professors of Dalhousie. The learned Chief Justices spoke with great eloquence, Sir William Young announcing that Mr. Munro had secured the amount of endowment ($160,000) of his *four* professorships in first mortgages on some of the best real estate on Broadway.

The following are the officers of the Alumni association of Dalhousie college for the present year: Rev. L. H. Jordan, President; J. M. Carmichael, Vice-President; F. H. Bell, Secretary; F. J. Davidson, Treasurer; Executive Committee, Robert Sedgewick, J. G. McGregor, Hugh McKenzie, James Forest, and Rev. W. S. Whittier. The society resolved to substitute a representative on a board of governors, elected for a period of five years, for the representation by the president of the society, and Mr. R. Sedgewick was elected in accordance with the resolution. Resolutions were also passed electing the new professors in arts and law honorary members and providing a gold medal for the honor course in English literature, etc., to be called the DeMille medal. The annual Alumni dinner was held on the evening of April 25th, at the Halifax Hotel. Upwards of seventy gentlemen were present. The toasts evoked some brilliant speeches. Among gentlemen responding were the American Consul, J. W. Langley, Esq., M.P.P., Hon. W. J. Stairs, Prof. R. V. Jones of Acadia college, His Worship the Mayor, and Mr. Greer of the University of Toronto.

The *Acadia Athenæum* disapproves of the recent regulation which brings the college year of Acadia college to an end on the 1st of May, as far as the three lower classes are concerned.

The third annual session of the Teachers' Association for Inspectoral District No. 4, (counties of Annapolis and Digby), was held at Digby, on the 27th and 28th of April. Though a number of

teachers were prevented from attending by the unfavorable state of the roads in the country districts, the association numbered nearly seventy enrolled members. L. S. Morse, Esq., inspector of schools, presided at the various meetings with dignity and efficiency. The posts of vice-president. and secretary-treasurer, were acceptably filled by A. McRae, Esq., principal of the county academy, Annapolis, and G. B. McGill, Esq., principal of the graded school at Clementsport. The programme of exercises, which was well carried out, was as follows: "The Necessity of having Trained Teachers in charge of our Primary Schools," Alex. McRae; "Grammar and how it should be Taught," W. H. Magee; "Teaching School *versus* Keeping School," G. B. McGill; "The Teacher's Social Position," J. W. McGregor; "Questioning," J. W. H. King; "Some of the causes of Indolence in Pupils," A. J. McKenne. The papers were all evidently the product of much careful thought, and some of them evinced the result of large experience in the practical work of teaching. A pleasing feature of the association was the readiness of the members to turn to account the opportunity offered for interchange of views. The discussions, while animated, were in the best of temper. The association, while passing no formal resolutions, through the general drift of remark, and what indeed may be termed a manifest *consensus* of opinion, strongly pronounced in favor of insisting on a more careful preparation for the duties of teaching as the most effective means of increasing at once its dignity, efficiency, and remuneration; of natural and educative modes of instruction as contrasted with torpid routine and profitless cram; of somehow securing and retaining greater *outside* interest in the work of the teachers; and of rightly guarding a rapidly developing public sentiment which is making itself felt on the subject of technical education. The Superintendent of Education was present at all the meetings, and during parts of several of them was kept pretty busy in answering, or helping to answer, the many pertinent questions which were propounded for solution, bearing on various branches of study, on educational methods, and on some of the legal aspects of the teaching profession. The public educational gathering held on the evening of the 27th ult, addressed by the Rev. J. Ambrose, A.M., ex-inspector of schools, J. E. Munro, Esq., A.B., Barrister-at-Law, the Rev. William Ainley, and the Superintendent, was very largely attended. Another gratifying fact characterizing this session of the association was that a large number of gentlemen interested as citizens in the cause of education were in attendance at several of the meetings. In particular, the Rev. John Ambrose, Rector of Digby, placed the association under great obligations both by instructive words and kind attentions.

The Digby academy, under the energetic principalship of Mr. W. H. Magee, is enjoying a fair measure of prosperity.

B. McKittrick, Esq., A.B., has resigned the principalship of the model schools, Truro, to resume his former position at the head of the county academy at Sydney, C.B.

The vacancy in the Kentville county academy, caused by the retirement of Mr. Denton, as referred to in last month's JOURNAL, has been temporarily filled by the engagement of W. G. Parsons, Esq., A.M.

WEALTH OF AMERICA.—Mr. Mansail has reconsidered his astonishing and altogether acceptable figures on the wealth of this country, which he estimates at 49,770 million dollars, against 40,640 millions ascribed to Great Britain. He estimates that from 1870 to 1880 our wealth has increased 35 per cent. His principal table is as follows:

	Millions of Dollars. U. States.	G. Britain.
	1880.	1880.
Houses,	$13,400	$10,600
Furniture,	2,600	2,400
Manufactures,	5,200	2,900
Railways,	5,200	3,500
Shipping,	300	600
Bullion,	700	700
Lands,	9,600	9,400
Cattle,	1,800	1,220
Crops,	2,000	720
Invested abroad,	500	6,300
Sundries,	700	600
Wealth proper,	42,000	38,940
Roads, public lands, etc.,	7,770	1,700
Grand total,	49,770	40,640

New England Journal of Education.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

CHATHAM DISTRICT.—The semi-annual convention of the Chatham District Teachers' Association was held at the central school, on Thursday and Friday, May 10th and 11th. According to the constitution of the association, the meeting was opened by prayer, by Rev. A. McColl, the minutes of the last meeting read and confirmed, and communications read. Mr. Campbell, of the Canada Publishing Company, then addressed a few remarks to the convention, directing attention to what he considered the peculiar advantages of the "Royal Canadian Readers." Mr. Gage, of the firm of Gage & Co., publishers, was then called upon to address the meeting on the subject of "Readers;" but that gentleman, after courteously thanking the teachers for the opportunity thus extended to him, declined, stating that it was utterly impossible to compare the books in a few minutes; and, furthermore, that the two series were now before the Government for authorization, and when matters were in court it was customary for discussion thereon to cease while judgment was pending, and, consequently, he would not take up the teachers' time in useless discussion. The next subject in the programme, "Hygiene," was very skilfully handled by Dr. Tye, who divided the subjects into two parts, "Personal Hygiene" and "Public Hygiene." The doctor brought into prominence the well-known facts, that the body receives, gains, and wastes. He, moreover, stated that there is, as it were, a strict ledger account kept of personal hygiene, which account is strictly balanced. After the doctor had presented the subject in its various aspects in a very able manner, several of the teachers entered into the discussion, especially on the subject of ventilation. Moved by Mr. Birch, seconded by Mr. Nichols, B.A., P.S.I., "That Dr. Tye be made an honarary member of the association."—Carried. Moved by Mr. Colles, seconded by Mr. Kellogg, "That a vote of thanks be tendered Dr. Tye."—Carried. The meeting then adjourned till afternoon. The afternoon session was opened by Mr. Davis, B.A., who illustrated the subject of "Mensuration" by means of a set of instruments, prepared for the purpose. Mr. Colles, head master of the central school, then conducted a class in reading, showing the results aimed at in that branch of education, and the method of obtaining these results. Next, Mr. Thrasher conducted a class in mental arithmetic, which, he stated, was an important subject, to which sufficient attention was not paid. The next subject in the programme, "Denominate Numbers," was introduced by Mr. Ayarst, who showed how some difficulties in the way of the pupils, regarding these numbers, might be explained away by illustrations in simple rules. This opened some discussion about the relative values of the old and new methods of borrowing, or rather taking, in subtraction. Mr. Hamilton, B.A., editor of Chatham *Planet*, next explained a new method of representing meteorological facts. The meeting was then adjourned till next day. On Friday morning, after the meeting was opened by prayer, by Rev. A. McColl, Mr. Nichols, B.A., P.S.I., introduced the subject of "Botany, and how to teach it." He wished to remove the prevalent idea that botany was a formidable study. The teacher should begin with the seed, and by placing before his pupils seeds and plants, in various stages of maturity, explain the phenomenon of growth. One of the chief objects of this study is to make the child observant. The subject on the programme, "Essentials of Grammar, and how to teach them," was delegated to Mr. Lawe, B.A., principal of the Wilberforce institute. That gentleman began by stating that our system of education was by far too theoretical, and not sufficiently practical; that our people were crammed with useless studies; that our universities were in that respect worse than our high schools, and our high schools infinitely worse than our public schools. The fine arts are not sufficiently well cultivated in Canada; and that, as the most flourishing periods of literature were before grammars were compiled, grammars should be abolished from our schools. This subject, of course, raised much discussion. Mr. Nichols thought that grammars should not be abolished altogether, especially as telling a child a certain form of speech is correct, and another incorrect, is not sufficient, for the child will demand the reason why these things are so. Mr. Kellogg objected to Mr. Lawe's ideas; he thought that the subject of study, being an old one, was sufficient reason for us to continue its use. This, I think, was the one weak point in Mr. Kellogg's remarks, as we must know that the mere fact of a subject being old is not enough to warrant its continuance, or we would be in a very different state of civilization from that which we are at present enjoying; we would in that case be living in the rude manner of our ancestors; rush-lights would be used, instead of the brilliant glow of electricity; and our books, instead of being printed, would be produced by the hard toil of writing by hand; and the old woman who, on her first sight of a steamboat, exclaimed, "What a sin to tempt God Almighty's wind in such a way," would never have been troubled. Progress is the watchword of the world, for God has so constituted the human mind that it

ever grasps after what is still to be obtained. Mr. Kellogg's other statements were, however, very forcible, as "There must be something valuable in the old systems, or they could not have produced such men as we have at present." But "We cannot teach language without some law." Mr. Nichols, B.A., P.S.I., gave a short address on "Vocal Music," advocating its use in schools, and giving his personal experience in the study of that art. The question was discussed by several other gentlemen, who all held the same opinion of its value in schools. Mr. McLachlan, principal of the Canada business college, very ably illustrated "Penmanship, and how to teach it," by turning the convention into a writing-class, explaining principles and movements, and showing how to obtain the required results by various exercises; giving the analysis of capital letters, etc., and thoroughly explaining the whole in a most interesting manner. A committee, consisting of Mr. McLachlan, Rev. Mr. McColl, Mr. Colles, and Mr. Nichols, was then appointed to compare the copy books, and report on their respective merits; and the meeting was adjourned till afternoon. The first subject on the afternoon list was reading, discussing, and answering the questions in the question drawer, but as these were few not much time was required. The committee on copy books then submitted their report, namely, that, after a careful comparison of the "Beatty Copy Book," published by Campbell & Co., and those newly issued by Gage & Co., the majority decided in favor of those issued by Gage & Co., with the exception that angular hand should not be introduced in schools. Furthermore, Mr. Nichols stated that was he not thoroughly convinced that Gage & Co.'s books were the best he could not on any account be induced to give such a verdict. Moved by Mr. Bracken, seconded by Mr. Park, "That the report be adopted.—Carried. Short addresses were then delivered by several ministers of the town." Rev. A. McColl delivered a very able address on "Truthfulness," its special importance in schools; the care with which all exaggeration and equivocation should be avoided; the sacredness of a promise, etc. Rev. N. H. Martin followed with a very pleasing address on "Courtesy in Schools." That gentleman maintained "that children should be taught the necessity of treating all around them with politeness; that rudeness is never a mark of equality. Persons have risen to very high stations in life, to which they would never have attained had it not been for the charm of their manners, one notable instance of this being the Duke of Marlborough." Rev. J. R. Bathsby then gave a short but pithy speech on the "Rod," advocating its judicious use in schools, and gave his opinion that, in some instances, it was an absolute necessity. Professor McVicar, of Montreal (who was present), was then asked to say a few words. He began by stating his approbation of the order in which the addresses were arranged; 1st, Truth; 2d, Courtesy; and lastly, the Rod. Truth must be the basis of all character and action. Then he said a few words regarding the style of the teacher—"enthusiasm and individuality must characterize his manner. "Mr. Nichols, B.A.. P.S.I., also said a few words on "Neatness." Moved by Mr. Nichols, seconded by Mr. Crawford, "That a hearty vote of thanks be tended to the gentlemen who so kindly and ably addressed the meeting."—Carried. The officers for the present year were then elected by the members, as follows: Moved by Mr. Bracken, seconded by Mr. Colles, "That Mr. W. H. Shaw be president."—Carried. Moved by Mr. Colles, seconded by Mr. Bracken, "That Mr. Davis, B.A., be first vice-president."—Carried. Moved by Mr. Donovan, seconded by Mr. Nichols, "That Mr. Rose be second vice-president."—Carried. Moved by Mr. Donovan, seconded by Mr. Rose, "That Mr. Nichols, B.A., P S.I., be treasurer."—Carried. Moved by Mr. Knight, seconded by Mr. Colles, "That Miss Dawson be secretary."—Carried. Executive committee, named by president, Mr. Donovan, Mr. Bracken, and Mr. Colles. New Business.—Moved by Mr. J. Bracken, seconded by Mr. C. P. Kellogg, and resolved, "That this association respectfully requests the Minister of Education to add the subject of vocal music to the programme of studies prescribed for students in county model schools; and, in event of being received, the solfa system be adopted."—Carried. Moved by Mr. Birch, seconded by Mr. Shaw, "That the best thanks of the association be and are hereby extended to the persons who so kindly and ably assisted at the entertainment, under the auspices of this association, held at the Opera House, Thursday evening, May 10th." The convention then adjourned to reassemble at the pleasure of the directors. E. S. E. DAWSON.

EAST BRUCE.—The annual meeting of East Bruce Teachers' Association took place in the Model School, Walkerton, on Friday and Saturday of last week, Mr. Telford, the President, in the chair. These meetings were interesting throughout; and were characterized by such earnestness as is too seldom found in such assemblies. Much of this, of course, was owing to the presence of Dr. McLellan, who, with all his old-time vigor, gave addresses rich with instruction and encouragement to the teachers. Under the glowing words of the Doctor, the teachers felt that theirs is indeed a noble profession, and quite worthy of the best energies of the best men. After the routine, the work of the Association was opened by Mr. Mustard, who gave an address on "Music in the Schools." Mr. Mustard treated his subject very fully and satisfactorily. In the after discussion, Dr. McLellan expressed hearty approval of points contained in the address. Upon re-assembling for afternoon session, Dr. McLellan gave a lesson on "The A B C of Arithmetic." In a notice of this kind, it is impossible to do justice to his treatment of this subject. It may be said, however, that we were told that in our method of presenting the ideas of numbers to beginners we are quite ahead of our American cousins. "The Art of Questioning" is the title of the other lesson with which the Doctor favored us. This lesson was of great value especially to young teachers. During this session, a most interesting discussion took place on the subject, "Minister vs. General Superintendent of Education." It was feared by many that the discussion, which was intended to be a discussion in abstract as far as possible, would drift into party politics. That it did not was in a great measure owing to the speech of the introducer, Mr. E. A. Elliott, who moderately and clearly stated the advantages and disadvantages of both systems, himself inclining to some intermediate system, which should combine the good qualities of the two. On the evening of Friday, a large audience assembled in the High School Hall to hear Dr. McLellan deliver his lecture on "The Relation of Parents and Teachers to the School." Here, too, a good time was enjoyed, and all went away well satisfied with what they had heard. To few before, perhaps, was brought so powerfully the idea of the greatness of the teacher's mission, and of the far-reaching influence of the teacher, not only over the intellectual but also over the moral and spiritual natures of pupils. On Saturday a discussion took place. "Programme of Studies in the Public and High Schools." Mr. Munroe discussed the subject so far as public schools were concerned; and Mr. Morgan with reference to the high schools. The great number of options permitted in studies, in the opinion of the speakers, is having a bad effect on the efficiency of the school. A resolution to this effect was afterwards unanimously passed. On the matter of readers for the public schools—a much-vexed question—the following resolution, moved by Mr. Clendenning, seconded by Mr. Keyes, was passed:—"That in the opinion of this association no steps should be taken to introduce any new series of readers into our schools until the question has been submitted to the association at its next meeting." On Saturday afternoon there was a much larger attendance than can usually be brought together for the last half-day's work, which usually consists of routine business. At this session, Mr. Telford gave his method of teaching composition. The question drawer, always an interesting feature of our association, was taken up. Mr. Morgan and Mr. McKay answered the questions on grammar and arithmetic respectively. The election of officers resulted in the appointment of the same officers for the ensuing year as for the past. The delegates appointed to attend the provincial association are Messrs. Telford and Morgan. Special attention ought here to be made of a new feature which was introduced in connection with these meetings, viz.: readings by Misses Wiley and Patterson, and Mr. Bolitho, pupils of the Walkerton high school. The efforts of these young people elicited hearty applause, their renderings being much admired. Under the head of essays we were favored by Miss Thornton with an essay on "Self-Culture," and by Miss Bessie Ross, with one on "Self-Help." Both of these were expressed in choice English, and did great credit to the writers. At four o'clock the association adjourned, to meet at Paisley in the coming fall, and so ended a series of meetings of the most satisfactory character to all concerned.

SOUTH GREY.—The annual meeting of the South Grey Teachers' Association was held in the Town Hall, Flesherton, on the 22nd and 23rd May. The attendance of teachers was not so large as on some occasions, owing to the decidedly unfavorable weather. The meeting itself, however, was generally pronounced the most successful ever held in South Grey. Our indefatigable secretary had secured such an array for the occasion—chief among whom was J. A. McLellan, M.A., L.L.D., with several others—that throughout the whole time the attention never seemed to flag, till the time for final adjournment had almost arrived. The lecture by the worthy Doctor, and the recitations by Mr. Tait of Collingwood, in the evening of the first day, were listened to with rapt and delighted attention. The lecture itself was a masterly, an overpowering effort. A competent authority remarked that he had frequently listened to eloquence before, on both sides of the Atlantic, but to none equal to that of Ontario's great orator, Dr. McLellan.

LINCOLN COUNTY.—The annual meeting of this association was held in the Central School, St. Catharines, on Friday and Saturday, May 25th and 26th. At the morning session, on Friday, Mr. E. R. Hutt, of Port Dalhousie, was elected to the chair. The minutes of the last convention were read and adopted. Mr. Grey and Misses McCoy and Crawford were appointed as a committee to introduce teachers to each other. Mr. W. F. Rittenhouse, president of the association, tendered his resignatson on the ground that he was leaving the profession. Mr. J. B. Grey, county inspector, then introduced the subject of Discipline. Mr. J. W. Rae took up Map Drawing as a means of teaching Geography, and Mr. J. H. McFaul, city inspector, that of Map Drawing to Scale. At the afternoon session, Mr. R. Cruikshanks, Beamsville, introduced the subject of History-teaching to a fourth class. Messrs. Cork, Henderson, Hutt, and Haynes took part in the discussion which followed, and which turned principally on the scope of the subject which had to

be covered for examinations. The president, and secretary, and Mr. Cork were appointed as a committee to draw up a resolution with regard to History for entrance examinations. Mr. George Cork (Niagara) then introduced the subject of Composition, and gave examples of his method of criticising and correcting composition exercises. After a lesson on Interest, by Mr. Freeman Moyer (Campden), W. J. Robertson, M.A., L.L.B., Mathematical Master of St. Catharines Collegiate Institute, gave a lesson in Algebra, for which he received the thanks of the meeting. Mr. J. B. Grey then commented on the new programme, and advocated greater uniformity in the religious exercises for opening and closing schools. The evening session was held in the Collegiate Institute Hall, where there was a fair attendance to hear a lecture by the Rev. W. Wetherald, of St. Catharines, on "The Sacred Poets." Mr. W. F. Rittenhouse occupied the chair. After a brilliantly executed pianoforte solo by Miss Vanderburgh, the lecturer was introduced, and kept his hearers thoroughly interested in his admirable lecture. At the close a vote of thanks was most heartily accorded to him and to Miss Vanderburgh. After this had been suitably acknowledged, the session was brought to a close. At the morning session on Saturday, the report of the secretary-treasurer, showing a balance in hand of $24.82, was read and adopted. The following officers were then elected: President—Mr. George Cork (Niagara); Vice-Presidents—J. Seath, B.A., and Misses Crawford and Moyer; Secretary-Treasurer—Mr. J. W. Rae (St. Catharines); Auditors—Inspectors Grey and McFaul, and an executive of twelve members. Mr. E. R. Hutt (Port Dalhousie) then read an admirable paper on Teaching Reading, for which he received a hearty vote of thanks. A motion expressing high appreciation of Mr. Rittenhouse, as a teacher and member of the association, was passed, together with a hearty expression of good wishes for his prosperity in his new vocation. A very interesting lesson was then given by Mr. J. B. Grey to a junior class in Numeration and Notation. Mr. Grey forcibly illustrated the advantage of connecting the actual idea of numbers with the figures representing them. Mr. J. W. Rae gave a lesson in Animal Physiology, showing how easily this most useful subject may be taught and illustrated. Mr. J. P. Merritt, of St. Catharines, then explained, with the aid of an excellent chart, the leading features of the Metric System. After several questions had been asked and answered, a vote of thanks was accorded to Mr. Merritt. A heavy storm reduced the attendance at the Saturday afternoon session very considerably. The afternoon was spent in answering the queries placed in the question drawer. Messrs. Cork, Rae, and Seath ably performed this duty.

☞ Through pressure on our space some reports of Teachers' Associations, personal notes, etc., are held over for next issue.

Readings and Recitations.

THE BOOTBLACK.

Here y'are—! Black your boots, boss?
  Do it for jes' five cents;
Shine 'em up in a minute—
  That is 'f nothin' prevents.

Set your foot right on there, sir;
  The mornin's kinder cold—
Sorter rough on a feller
  When his coat's getting old.

Well, yes—call it coat, sir,
  Though 'taint much more'n a tare;
Can't get myself another—
  Aint got the stamps to spare.

Make as much as most on 'em?
  That's *so*, but then you see
They've only got one to do for;
  There's two on us, Jack and me.

Him? Why—that little feller,
  With a double up sorter back,
Sittin' there on the gratin'
  Sunnin' himself—that's Jack.

Used to be round sellin' papers,
  The cars there was his lay;
But he got shoved off the platform,
  Under the wheels, one day.

Yes, the conductor did it—
  Gave him a reg'lar throw—
He didn't care if he killed him!
  Some on 'em is just so.

He's never been all right since, sir,
  Sorter quiet and queer—
Him and me go together—
  He's what they call cashier.

Trouble? I guess not much, sir;
  Sometimes when biz gets slack,
I don't know how I'd stand it
  If it wasn't for little Jack.

Why, boss, you ought to hear him;
  He says we needn't care
How rough luck is down here, sir,
  If some day we get up there.

All done now—how's that, sir?
  Shine like a pair of lamps.
Mornin'!—give it to Jack, sir;
  He looks after the stamps.

—*Gilmore's Speaker.*

[Quite an effective tableau can be arranged with this piece. A large boy should act the part of the man having his boots blacked, a small ragged boy the part of the bootblack, and a still smaller ragged boy the part of "Jack." Every point of action should be carefully noted by the teacher, and the boys trained to bring them out by means of their speaking and acting.]

MAGAZINES.

THE NORTH AMERICAN REVIEW for April. The first article in this number is on "Divorce," from the pens of Dr. Woolsey and Judge John A. Jameson. Dr. P. Bender writes on "A Canadian View of Annexation." He thinks it is one of those important dormant issues that are never out of sight on either side of the lines, yet we question the accuracy of the statement. What has Canada to gain by annexation? How much would she lose? Any candidate for Parliamentary honors advocating it would be sure to be defeated in every constituency throughout the Dominion. Senator John A. Logan has a very thoughtful article on "National Aid to Public Schools." Dr. Howard Crosby writes vigorously and well on "The Dangerous Classes." Some plain truths are spoken as when he says, "We see now in our legislative halls gamblers, drunkards libertines, *et id genus omne*, who must take bribes in order to keep up their licentious lives. A low set of liquor sellers make the ordinances of the city of New York. Politics are run by rowdies and criminals, with whom decent men cannot associate, except to be defiled." "Race Education" is treated by President James C. Welling in a serious manner, his attention being confined to the Negro race, leaving out of view the Indian. Charles F. Wingale gives some very interesting and startling facts on the "Water Supply of Cities," startling from the quantity of water that is proved to be wasted. "Ethical Systems," by Prof. F. H. Hedge, and "Criticism and Christianity," by O. B. Frothingham, are worthy of perusal, but are far from being satisfactory. Most readers taking an interest on such subjects desire something deeper and fuller than is here promised. An article on "Street Begging," by the Rev. Dr. Deens, completes the contents of a number equal to most of its predecessors.

QUESTIONS ON BURKE'S "REFLECTIONS,"

BY J. MILLER, B.A.

1. Sketch the parliamentary career of Edmund Burke.

2. Characterize Burke's prose style, and state in what respect it differs from that of most modern writers.

3. Enumerate the causes of the French Revolution, and mention its effects on English politics.

4. How does Burke contrast the treatment of the King and Royal Family of France with the spirit of old European manners?

5. Give the substance of the passage in the "Reflections" where the author refers to the former condition of the Queen.

6. Under what circumstances does Burke hold the "theatre a better school of moral sentiments than churches?"

7. What would render, in Burke's opinion, the "Science of jurisprudence" a "heap of old exploded errors?"

8. In what respect is "society" regarded as a "contract?"

9. Criticise the arguments in the "Reflections" in favor of a state church.

10. On what grounds is Burke entitled to be ranked as a philosophical statesman?

GAGE'S NEW SERIES OF COPY BOOKS.

To be substituted for Beatty Copy Books issued by the same firm.

GAGE'S REVISED AND IMPROVED SERIES OF COPY BOOKS.

With a view of presenting to the public a Series of Books that would embody the suggestions given to us as Publishers of Copy Books during the past five or six years in our daily intercourse with Teachers, and with a view of utilizing the experience of practical Teachers who have been using our Beatty Copy Books since they were first published, we have called to our aid a number of well known teachers and experts in Penmanship.

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Has been introduced in the series (No. 3), in which the particular analysis of each letter, large and small is given.

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Have been introduced into one of the series (No. 4) to give freedom of motion and rapidity in the execution of work.

Improved Engraving.

The engraving has been perfected. One of the most skilful engravers in New York having been employed so that we should be able to produce the finest class of work.

Paper.

The finest class of paper has been used in their manufacture, so that they should be in every respect unequalled.

Printing.

The early numbers of the books are printed by an improved process. The numbers from 3 to 11 inclusive are printed on lithographic presses by hand.

Gage's Revised and Improved Copy Books

Although having a number of new and important features introduced are so arranged that the teacher can gradually substitute our new books for the Beatty Copy Book published by us without any loss or inconvenience.

☞ PRICE SAME AS BEATTY BOOKS PUBLISHED BY US. ☜

GAGE'S REVISED AND IMPROVED
SYSTEM OF PRACTICAL PENMANSHIP.

WHAT LEADING EDUCATIONISTS SAY:

BELLEVILLE.

Adopted by Committee of Teachers.

The Committee beg to recommend that the following books be used in the several departments of the public schools of Belleville, viz.: "Miller's Language Lessons," "Kirkland and Scott's Arithmetic," "Epoch Primer," "English History," "Mason's Grammar," "Gage's Revised and Improved Copy Books," and "Walter Smith's Drawing Cards," etc.

M. W. McLean, Convener, Belleville.

SOUTH WELLINGTON.

Recommended by Inspector Craig.

Having carefully examined "Gage's Revised and Improved Copy Books," I have no hesitation in stating that they are superior, in several respects, to any other set of copy books I have seen. In point of merit they greatly surpass the Beatty copy books which have been extensively used in this Division, and of which they are an improved edition. I have therefore no doubt that the teachers throughout the Province will gladly avail themselves of the opportunity of replacing the Beatty system with this revised and better one.

J. J. Craig, I.P.S., South Wellington.

Shall have them used in the public school here in future.

Having examined "Gage's Revised and Improved Copy Books," I am so convinced of their superiority that I shall have them used in the public school here in future. I am sure Mr. Gage deserves the thanks of every teacher for bringing out such an excellent and complete set of copy books.

D. B. Hyatt, Prin., P.S., Fergus.

Have no hesitation in adopting them for use.

It affords me much pleasure to state that "Gage's Revised and Improved Copy Books" are very much in advance of any previously sold here. We have no hesitation in adopting them for use in the Elora public school. Several other teachers, to whom I have shown the copy books, have a very high opinion of them. Nos. 2, 3, 4, 5 and 7 are my special favorites.

Alex. Petrie, Prin., P.S., Elora.

MOUNT FOREST.

Adopted by Mt. Forest Public School Board.

At a meeting of the board of public school trustees of Mount Forest public school, held in board room, the following resolution was passed: "That the change of copy books from Beatty's to "Gage's Revised and Improved Copy Books" be permitted.

T. G. Smith, Secretary, Mount Forest.

Heartily recommend its use in the public schools.

I have carefully examined "Gage's Revised and Improved Copy Books" and heartily recommend its use in the public schools. An excellent feature, among many, is the analysis of the letter forms on the cover. This furnishes a means of easy reference for the pupil, by which he may acquaint himself with the elements entering into the composition of each letter, without which it is scarcely possible to excel in penmanship.

Samuel B. Westervelt, Prin. M.S., Mt. Forest.

Vast improvement.

The sample of "Gage's Revised and Improved Copy Books" submitted is a vast improvement over anything of the kind now in use.

Peterboro' *Examiner.*

NEWMARKET.

Shall continue to use these books.

Nos. 1, 2, and 3 of "Gage's Revised and Improved Copy Books" supply a want long felt in our public schools, as the directions for making each letter, and its analysis, are given on the same page on which the letter is used. We shall continue to use these books, as we did the "Beatty" books, in the past.

W. Rannie, Prin., M.S., Newmarket.

TEESWATER.

Shall have it introduced at once.

I have examined "Gage's Revised and Improved System of Practical Penmanship," and find it to be superior to the system now in use in my school, and shall have it introduced it once. The analysis of each letter, as given in No. 3, is in itself a sufficient evidence of its worth to pupils of all grades.

H. H. McKague, H.M., P.S., Teeswater.

CHATHAM.

Approved by Chatham District Teachers' Association.

Rev. A. McColl, and Messrs. Nichol, McLachlan, Colles, and Birch were appointed a committee to examine and report upon the various copy books published. After a careful comparison "Gage's Revised and Improved Copy Books" were found superior to the others.

Chatham District Teachers' Association.

WEST BRUCE.

Recommended by Inspector Campbell.

On account of the many excellent features of "Gage's Revised and Improved Copy Books," I have recommended their use in the schools of West Bruce.

A. Campbell, I.P.S., West Bruce.

Have at once introduced them.

After carefully examining "Gage's Revised and Improved Copy Books," I have no hesitation in pronouncing them far ahead of any now in use in our schools. The very gradual and peculiar features of the development of the principles of penmanship are characteristics which must secure their immediate use in our schools. So thoroughly convinced am I of their superiority, that I have at once introduced them into the schools under my charge.

David F. Ritchie, Prin., Public Schools, Southampton.

COUNTY HALDIMAND.

Consider them much superior to any other series.

I beg to state that I have carefully examined "Gage's Revised and Improved Copy Books," and consider them much superior to any other series in use in the public schools of Ontario.

C. Moses, I.P.S., Haldimand County.

COLLINGWOOD.

Very much prefer their use in my school.

Having examined, with much care, "Gage's Revised and Improved Copy Books," I desire to state that I should very much prefer their use in my school to the former series by the same publishers.

E. Ward, H.M., Centre Ward P.S., Collingwood.

INVERMAY.

Will endeavor to use them exclusively.

I have carefully noted the improvements in "Gage's Revised and Improved Copy Books," and will endeavor to introduce them exclusively into my school, at the earliest opportunity.

H. W. Hicks, H.M., P.S., Invermay.

KINGSTON.

Should be introduced at once.

"Gage's Revised and Improved Copy Books" exhibit a marked advance in the more systematic arrangement and orderly development of the subject. They should be introduced at once in all our schools.

Isaac Wood, Prin., M.S., Kingston.

Very far in advance.

It gives me very great pleasure to add a slight meed of praise in reference to the very admirable copy books now published by your firm. I have carefully examined the several numbers in the series of "Gage's Revised and Improved Copy Books," and think that in everything that makes a copy book they are in advance—very far in advance—of those now used in the city schools.

Wm. H. Godwin, Prin., Queen St. Sch., Kingston.

CLARKSBURG.

Setting head-lines at an end; shall introduce these copy books.

Having set head-lines myself for the past year, I came to the conclusion that the first time I would see "Gage's Revised and Improved Copy Books" I would thoroughly examine them. I have seen them—and setting head-lines is now at an end. I shall introduce these copy books at once.

John Whyte, Head Master, P.S., Clarksburg.

PETERBORO'.

Adopted by Peterboro' Public School Board.

The Peterboro board of education has recognized the superiority of "Gage's Revised and Improved System of Practical Penmanship," and, by resolution, has authorized the introduction of it into the public schools of the town.

J. Braden, Head Master, Peterboro.

GAGE'S REVISED AND IMPROVED
SYSTEM OF PRACTICAL PENMANSHIP.

WHAT LEADING EDUCATIONISTS SAY:

FLESHERTON.

Most complete system of penmanship ever introduced

I have carefully examined "Gage's Revised and Improved System of Practical Penmanship." The grading of the different copies I regard as excellent. The analysis of the principles of the small letters and capitals adds great value to the book. I consider it the most complete system of penmanship ever introduced into our public schools.

M. P. McMaster, H.M., P.S., Flesherton.

PICTON.

Many satisfactory features in the way of improvement.

"Gage's Revised and Improved System of Practical Penmanship" contains many satisfactory features in the way of improvement. Due regard is given to tracing, spacing, and analysis of letters, and (what is of the utmost importance) to position of the hand in writing. I take much pleasure in recommending them.

R. W. Murray, Prin., M.S., Picton.

DUNDALK.

I intend to use them in preference to all others.

I am much pleased to certify to the *worth* of "Gage's Revised and Improved System of Practical Penmanship" to our schools. The arrangement and grading of the exercises I consider to be very fine—just what we want. As these are an improved edition of the copy book now chiefly in use, I intend to use them, in preference to all others, so as to gain a uniformity of style in writing in my school.

W. P. Rundle, Prin., P.S., Dundalk.

ORANGEVILLE.

Shall take care to have them used exclusively.

I have examined the several numbers comprising "Gage's Revised and Improved System of Practical Penmanship," and am so convinced of their decided superiority over any others at present available, and of the great advantage the pupils will derive from their use, that I shall take care to have them used exclusively in the public schools here.

S. S. McCormack, Prin., M.S., Orangeville.

NAPANEE.

Consider them superior to any other series in use.

I have carefully examined "Gage's Revised and Improved Copy Books" and compared them with others, and cheerfully give my testimony to their excellence. I consider them superior to any other series in use. The quality of the paper and mechanical execution are all that can be desired, while the illustrations of position for holding the pen, on every page of Nos. 1 and 2, the analysis of letters on each page of No. 3, the exercises for freedom of movement introduced in No. 4, and the admirable manual printed on the covers, render the series nearly, if not quite, perfect. In fact, no teacher using them has any excuse for failure in teaching penmanship.

Jas. Bowerman, Prin., Model School. Napanee.

COUNTY OXFORD.

Recommended by Inspector Carlyle.

Believing that the study and practice of a uniform system of Penmanship by the teachers and pupils of the schools of the country would effect a marked improvement on the part of the scholars in writing, I beg to recommend for general use "Gage's Revised and Improved System of Practical Penmanship," and respectfully to make the following suggestions as to the use of it: 1. To require all pupils to use the book containing this system; 2. On introducing this system where the "Beatty System" has not been used, to require junior classes to begin with No. 1 of the series; and pupils of the senior classes who have not made reasonable progress in acquiring any system, with No. 3; 3. To insist upon pupils practising well, on slate or paper, every copy (especially the elements) in the way of preparation, before attempting it in the writing book; 4. To require pupils to practise on the blackboard, subject to the criticism of their classmates, and to prepare "home" lessons in writing; 5. To permit no pupil to take an advance number without the master's sanction, and to refuse such sanction unless the promotion be merited; 6. While particular numbers cannot be assigned to the several classes, Nos. 1, 2, 3, 4, and 5, are especially important to all below the fifth class who have not previously acquired the "Beatty System"; 7. To permit girls of the senior classes who have a decided preference for the angular hand, to make the transition after finishing No. 5.

W. Carlyle, I.P.S., Oxford County.

HANOVER.

Are unequalled.

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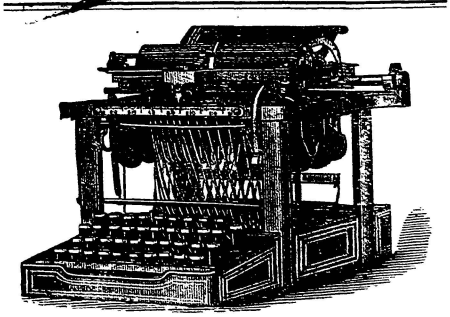

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I have to acknowledge the receipt of a copy of Wetherell's "Cato Major" for which accept thanks. I have not had time to examine the correctness of the Text of Vocabulary, but if these be correct, Mr. Wetherell has succeeded in giving us a first-class book. The Notes, Antiquities, &c., are so complete as to save the teacher and pupils a great deal of labor and time in writing Notes. The Examination Papers will be found suggestive and useful. The mechanical arrangement, and the paper, and typography are very good. Altogether it is the most elaborate Canadian classical text we have yet received, and I shall advise my pupils to use it for the Examination in 1884. I hope the book will meet with a ready sale and that Mr. Wetherell's labors will meet with a due reward. I think some blank leaves at the back of the book would have been an improvement. I do not approve of distributing the blank leaves all through the book, as when that is the case, the pupils are continually glancing at the notes and indefinitely postpone committing them.

P. C. MCGREGOR, Classical Master, H.S., Almonte.

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VOL. VIII. TORONTO, JULY, 1883. No. 73.

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TORONTO COLLEGIATE INSTITUTE.

The city of Toronto should rank higher educationally than any other city or town in Ontario. Its commercial preeminence, and the fact that it is the capital of the Province, have naturally led to the centralization within its limits of many educational institutions of a provincial character in theology, arts, law and medicine. It is but reasonable to expect that the citizens of such a city would demand that the educational institutions over which the law gives them control should be of the highest possible character. The public and high schools of Toronto should keep pace with the advancement made throughout the world in educational matters. The public school board have during the past few years shown a most commendable desire to make the schools under their charge a credit to the city. They have erected commodious and comfortable school buildings, appointed an excellent staff of teachers, and adopted methods of teaching and training which are fully as good as the best practised in any part of England or the United States. It is a pity that the same praise cannot be given to the Collegiate Institute. Even here, however, much must be said in favor of the board. They have provided an expensive building, and appointed a superior staff of assistant teachers, and unlike many boards, they have left "the rector" untrammelled so far as the classification, course of study, and general arrangement of the school is concerned. Whatever is wrong in Toronto Collegiate Institute, there is only one man on whom to place the responsibility. Few men have such unlimited powers as its rector. Absolutism is only

good, however, when its possessor is a man of unusual wisdom himself, or when conscious of his own weakness, he regularly seeks for counsel from those who are best qualified to give advice. Unfortunately the rector of Toronto Collegiate Institute cannot be placed in either of these classes. Power has simply made him an autocrat, who does not deign to consult even the teachers of his staff concerning any matters relating to the school. This betrays a great lack of consideration for others, and is certainly not calculated to lead to the development of a spirit of enthusiastic devotion on the part of his assistants. But the want of courtesy to his fellow teachers is not by any means the worst result of the rector's system of management. A writer in the Toronto *World* aptly characterizes his leading characteristic as "uneradicable old fogeyism." Unrestricted power when allied with "old fogeyism" always leads to the same result. One of the numerous evidences that the rector should have lived at an earlier date, is the fact that even with only five or six pupils in a class, he insists on having the sexes taught separately, without apparently being able to see that he thus reduces the teaching power of his masters one-half by limiting their time, or doubles the cost of tuition to the citizens. The result of this and other ancient customs naturally is that the Toronto Collegiate Institute has fallen behind others in much smaller places. It does not attempt such complete and thorough courses of education as some sister institutes with much poorer facilities than it possesses, and so the people of Toronto have to suffer the humiliation of seeing some of the brightest pupils from public schools go to other cities for the higher education for which then pay at home, and which they have a right to expect in their own city. A notable instance of this kind has recently attracted considerable attention. Miss Eliza Balmer, with whose brilliant success at the University our readers are familiar, was a graduate from Toronto public schools. She went for a time to the Toronto Collegiate Institute, hoping to gain the higher training she desired, but she soon reached the limit laid down by the Rector's fogeyism, and was reluctantly compelled to go to St. Catharines to complete her course. She obtained there what her own city could not give her, and St. Catharines has the credit that ought to have belonged to Toronto. St. Catharines is deserving of the honor, but what about Toronto? Are the trustees of the Institute satisfied to leave still in the Rector's hands the power which he has shown himself so incapable of using to the best advantage? They must remember, that while they should not be held directly responsible for the details in the management of the school, they are responsible for placing at its head a man who will keep pace with the progress of the age.

It is not a satisfactory defence of the management of the Institute in Toronto to urge that its pupils have taken some honors at the University. When it is remembered that large numbers of clever students come from the country to the school, attracted by the reputation of the many educational institutions in Toronto, and that the best pupils of the public schools in the largest city in Ontario are annually sent to it the wonder is not that honors have been taken, but that they have been so few. We hope that in justice to the able assistants on the staff, and to the citizens of Toronto and their children, the Trustees will clear away the cobwebs, and place their institute where it ought to be, at the head of the high schools of the province.

CRAMMING BY TRUSTEES.

The primary departments of very many schools are seriously overcrowded—an evil which inflicts much discomfort and suffering upon infant pupils too young to understand the cause of their misery, and unable to make its extent fully appreciated by those who have power to remove it. More than any other class in the school the junior division needs ample cubical space for perfect ventilation, and abundant floor room for marching to music, for gymnastics, for motion songs, and suchlike appropriate exercises. We are aggrieved by having as many as eighty, ninety, yes, sometimes more than a hundred, little children placed in charge of one teacher, to whom the smallest salary on the pay-sheet is allotted. But the small, badly lighted, ill-ventilated rooms into which these large troops of abecedarians are closely packed render effective management a physical impossibility. To squeeze young children together on crowded benches and thus prevent that freedom of motion which is half a child's happiness, to cut off the proper supply of pure air, and pen up these innocent beings in a fœtid, poisonous atmosphere, with insufficient light is a work fit for some Surajah Dowlah. But this is what "Trustees' Cram" effectually accomplishes. It does, we respectfully submit, much more permanent mischief to the rising generation than all the "Teachers' Cram" about which we are accustomed to read in the public press.

FIRE PANICS.

We repeat the note of warning given in the April number. Since the lamentable affair in the German Catholic School in New York last winter, another deplorable accident of the same kind has occurred. One day lately a boy suddenly cried "Fire!" and, although the alarm was false, the panic which ensued resulted in some twelve or fifteen deaths, and numerous severe injuries. If any such calamity should happen in one of our own schools, trustees and teachers will find little consolation for their grief in the reflection that after due warning they neglected to take the proper precautions. Narrow, crooked stairs, especially, are death-traps. Doors opening inward are death-traps. Small cloak-rooms with only a single door are death-traps, Large schools with upper storeys should have fire-drill every few weeks. Now is the proper time to make all needed alterations in halls, stairways, doors, &c.

Since the above paragraph was in type, there has come such a fearful confirmation of its truth as we hope never to hear again. At Sunderland, England, a terrible scene occurred on the evening of June 16. About 1200 children were in the gallery of Victoria Hall. At the close of the performance, the children hurried down stairs. At the top of the first flight of

stairs was a door partially closed so as to allow only one person to pass at a time, consequently the upper stairway became densely crowded. A child fell, and was unable to rise owing to the crowding of those behind. The affrighted children came on pell-mell, and soon more than 200 of them were trampled beyond recognition or suffocated in the mass of innocent victims who lay seven or eight deep!

Comment is useless. In the presence of such heartrending grief, criticism is disarmed. Let this sad calamity lead us to exercise unsleeping vigilance over the means of egress from all schools, halls, churches, and other public buildings. Now is the time for alterations and improvements. Once more we repeat the warning. God forbid that our words should again receive awful confirmation by some disaster in a Canadian school!

Trustees frequently build pleasant school-rooms and then place desks and seats over every available square foot of the floor, instead of leaving at least one-half the room free for exercises and evolutions. So deeply seated is this pernicious heresy in the mind of the average trustee that many inspectors are afraid to recommend plans for the large roomy apartments they really wish to see erected, lest some marplot fill them up with desks and thus the last case be worse than the first.

Will the day ever come when the best room and the most skilful teacher in the school will be given to the youngest class?

THE SWING OF THE PENDULUM.

In the course of a few years England has gone from the extreme of having no national system of education to the opposite extreme of a rigid compulsory clause. The disciples of Pestalozzi traversed the distance between having all lessons recited from text-books, and the total abolition of text-books even in highest mathematics. Bell and his followers found that in certain cases monitors could be employed with success, and they attempted to dispense with assistant teachers. In Ontario it was found that in some instances Scripture reading and lessons in morals were opposed, and now we seem to have gradually drifted to the antithesis of no Scripture teaching and no instruction in morals. Once upon a time our examinations were few and easy, lately they have grown both numerous and difficult, so that even the universities themselves are discussing the propriety of a reduction in their number. We lived a long time without entrance and intermediate examinations, afterwards we thought it necessary to hold them every six months. Just at the present time the educational pendulum seems to be making a perceptible swing in the region of elementary reading, oral teaching, and the education of the senses. To follow out to its ultimate consequences the present theory of certain *doctrinaires*, means to send out pupils from our public schools unable to carry on the great life-work of self-instruction by means of books, unaided by some kind preceptor to explain all difficulties.

Let us note, however, that all human progress involves this oscillation between extremes. Walking is only a succession of partial falls. A ship goes faster by tacking than by sailing straight before the wind. Even the earth itself zig-zags in its orbit. The British constitution and government have been slowly evolved and are still preserved by the alternate triumphs of opposite tendencies. The swing of the pendulum measures off the progress of the race in fashion, politics, science, commerce, as well as in religion and education.

We are glad to note this movement within the educational circle of Canada. The extremes will not follow because the present tendency leads that way. The present impulse will gradually lose its force, and we shall in due season reach the true line along which we are steadily advancing. We may safely humor every educational enthusiast to the top of his bent. His experiments may lead to the greatest results. Time will soon burst theoretical bubbles, but true progress and discovery, though painfully and laboriously achieved, will assuredly stand like the pyramids.

OTTAWA SCHOOL BOARD.

Moved by Mr. Bronson, seconded by Mr. Meadows: That in the opinion of this board it is desirable that there should be added to the text-books authorized for the use of the public schools of Ontario, an elementary work setting forth the evils resulting from the habitual use of intoxicating liquors as a beverage, so that the youth of the country may be fore-warned against such use; that the Secretary be instructed to address a circular letter in the terms of this resolution to other school boards in the province, asking their concurrence in this matter, and that he be also instructed to forward a copy of this resolution to the Minister of Education.

TECHNICAL EDUCATION.

A recent publication of the United States Bureau of Education gives a striking synoptic view of the development and progress of industrial education in that great country. In December, 1882, the Senate adopted a resolution directing the Secretary of the Interior to furnish the latest and fullest information in the possession of the Bureau of Education in relation to technical or industrial education in the schools and colleges endowed in whole or in part by the government of the United States, and also in other schools in the country reporting instruction in industry for either men or women. In response to this resolution, and within four months of its adoption, there appeared a short volume of upwards of three hundred pages, embodying with singular clearness and fulness the desired information. Among the many useful publications of the National Bureau of Education, this will deservedly rank among the most useful. Here we have, as it were vocalized, the work that a great nation is carrying on for the practical education of its sons and daughters. We are impressively reminded by the statistics collected from the wide field of thirty-seven different States, of the increasing hold which education, in its relation to industry, is taking of the public mind throughout the western republic, and especially in its most enlightened and progressive portions. Older countries, inheriting historical difficulties, and confronted by severer problems, have naturally led the way as pioneers, and not a few of them have solved some of these dif-

ficulties and problems by giving a practical and industrial turn to education. However, the report before us does not deal specifically with the instruction imparted to children in the schools. The sphere of inquiry from which its contents have been gleaned was designed to include chiefly, if not solely, institutions giving a distinctly technical education, fitting men not for nothing in particular, but for some specific industrial calling. It is impossible in the space at our disposal to summarize the instructive facts here presented; to classify and catalogue the institutions to which as independent establishments, or as branches of complex ones, birth has been given by the practical, popular, and pervasive idea of special education for special work. As might have been anticipated, the Southern States, impoverished by a war which destroyed not only accumulated wealth, but those naturally to be relied on as producers of future wealth, have made least progress in founding institutions for imparting advanced specialized training. On the other hand, the great west has peculiarly felt the impulse of the new idea, and to a greater extent than the east has provided institutions where that idea can be developed free from contact with the supposedly antagonistic tendencies of a purely classical education.

The report points out in an interesting manner the respects in which the American institutions devoted to industrial training differ from analogous institutions in the old world. As a rule they are less specialized. Some of the agricultural schools of Europe, the report affirms, require greater previous training than do any of the colleges of the United States. In illustration we are referred to the agriculture schools of Bavaria, whose requirements for admission are equivalent to an ordinary (American) collegiate course, while the studies pursued are on a par with a graduate professional course.

The report of Mr. J. J. Tilley, on the public schools in the county of Durham for the year 1882, has been received. It is a pamphlet of twenty-five pages and contains the results of the inspection of each school, the condition of the school-house and premises, the supply of school requisites, the name of the teacher, class of certificate, salary, average attendance, and the results of the uniform promotion examinations.

The schools are classified under two heads: first, *efficiency;* second, *condition of school premises;* and arranged in four classes, *one* being the highest and *four* the lowest.

Mr. Tilley explains at length the motives which induced him to establish the promotion examinations, and the methods of conducting them, and expresses his gratification at the improvement noticeable in regularity of attendance, in the neatness and care with which work is done, and in the interest manifested by parents and trustees in school work. While the school houses generally are substantial and comfortable and well supplied with school requisities, the inspector thinks that enough has not been done in the matter of cleaning, painting, and ornamenting them, and that lack of care and taste is too plainly visible in some cases.

Copies of the report, which is crowded with excellent suggestions, have been sent to the trustees of each section, who are thus enabled to ascertain definitely the standing of their own school and to compare it in every respect with others. How warmly the labors of this successful inspector are appreciated, may be inferred from the congratulations and hearty vote of thanks tendered him for his year's work by the County Council at its late meeting.

According to Inspector McLellan, "The teaching of literature is too often the teaching of parsing and analysis, and nothing more." Inspector Hodgson testifies that, "In the teaching of English too much time is spent on analysis; too little on synthesis;" and he adds, "the department.... taught worst and least is English." We direct attention to the article on "English in Schools" in the present issue from the pen of one of the ablest English scholars on this continent. Dr. Hudson seems to us to express the very spirit of the new education and also to give most precise directions how to reduce theory to daily practice. Is not Dr. McLellan correct in saying "You cannot 'parse' a boy into the love of the true, the beautiful and the good?"

We learn that some radical changes are contemplated in the organisation of the Provincial Model Schools, with a view to bringing them up to the requirements of the country as training schools for our young teachers.

—We are pleased to note the appointment of Mr. A. Smirle to the inspectorship of the county of Carleton, in the place of Rev. John May who has accepted a position in the North West under the Dominion government. Mr. Smirle has been for many years head master of the central school east, Ottawa, and is known to be a very successful teacher. He is spoken of as a gentleman of great energy, ability, and aptitude for teaching, with a practical knowledge of the school system. With these qualifications he is sure to succeed and we wish him every prosperity.

DISREPUTABLE TACTICS.

Intelligence has reached us that a certain A. J. Donly, of Simcoe, has mailed to every inspector in the country a postal card asking for a list of the teachers in his inspectorate as he wished to bring matters of interest under their notice. He signed himself "member of the Board of Examiners, Simcoe," and some inspectors were naturally led to believe that said Donly had something of vital importance in educational matters to discuss with the teachers in his official capacity, such as relates to certificates, &c. No such motive has inspired Mr. Donly, and we hasten to lay the truth before the inspectors. Mr. Donly has seen fit tc adopt this disreputable ruse to obtain a more ready response, and to procure the coveted lists with greater certainty. He wants them because he is employed as an agent in the interest of Nelson's series of Royal Readers. Why could he not in a manly, honest, straight-forward way state his object in seeking these lists? He adopts the subterfuge to beguile the inspectors—a course which is only in keeping with his false statement that the Royal Readers are authorized. He mistakes the teaching profession if he, or any other person, is under the impression that the inspectors can be caught in such a badly baited trap.

ONTARIO TEACHERS' ASSOCIATION.

The twenty-third annual convention of the Ontario Teachers' Association will be held in Toronto, on Tuesday, Wednesday, and Thursday, August 14th, 15th, and 16th, 1883.

PROGRAMME.

General Association.

"Literature in Schools"—MR. D. J. GOGGIN, Port Hope.

"School Curriculum"—MR. JAMES DUNCAN, Windsor.

"The advisability of a change in the administration of the School Law by the appointment of a Chief Superintendent of Education and a Council of Public Instruction in lieu of a Minister of Education"—JOHN E. BRYANT, M.A., Galt.

"Licensing of Teachers"—MR. JOHN DEARNESS, London.

"Moral Education"—JOHN MILLAR, B.A., St. Thomas.

"Examinations and Examiners"—MR. F. C. POWELL, Kincardine.

Evening Addresses will be delivered by PROFESSOR MARSHALL, of Queen's University, Kingston; WM. OLDRIGHT, M.A., M.D., of Toronto, on "School Hygiene;" and by the President of the Association, ARCHIBALD MACMURCHY, M.A., Toronto.

Public School Section.

"Hygiene"—MR. ROBERT ALEXANDER, Galt.

"H. S. Entrance Examination"—MR. WM. RANNIE, Newmarket.

"Revision of Programme"—MR. JAMES DUNCAN, Windsor.

Public School Inspectors' Section.

The most effective application of Government Aid to Public Education and the basis of distribution of the School Fund.

Salary and remuneration of Public School Inspectors.

Public School inspection and reporting to local authorities.

Lecturing and the work outside of the routine of inspection.

Law *versus* Regulations.

Examiners—Provincial and County Board.

High School Section.

"Local Examinations"—DR. FOREST, H. M., Bradford H. S.

"Entrance Examinations"—JAS. TURNBULL, B.A., H. M., Clinton High School.

"The Professional Training of H. S. Teachers"—PRINCIPAL MCHENRY, Cobourg Collegiate Institute.

"Natural Science at Matriculation"—PRINCIPAL SPOTTON, Barrie Collegiate Institute.

"The Conduct of Departmental Examinations"—PRINCIPAL BRYANT, Galt Collegiate Institute.

The Executive Committee earnestly calls the attention of all who are engaged in the work of Education to the importance of attending the above meeting. The Railways, as usual, will issue Return Tickets at reduced rates to those attending the meeting. Any further information respecting the Convention may be had on application to the Secretary of the Association.

R. W. DOAN,
Secretary,
216 CARLTON STREET,
TORONTO.

May 31st, 1883.

Mathematical Department.

NOTES ON THE HISTORY OF ALGEBRA.

Sir Isaac Newton called Algebra "Universal Arithmetic." The progressive improvements and discoveries in this science have been very slow and gradual in different ages and in distant countries and extend over many centuries.

The powers of numeration at first must have been very limited before the invention of the art of writing, but there are no records known which enable us to trace the steps of progress in the science of numbers. The earliest methods of numbering would naturally be limited to the naming of such numbers as the necessities of the people required. The next improvements would be found in those nations that applied themselves to commerce and navigation. The Egyptians and Phœnicians made the first improvements in the use and calculation of numbers. But the Egyptian system of arithmetic could not have been very perfect when Joseph was prime minister, for it is recorded that he left off numbering the quantity of corn laid up in the cities, "for the quantity was without number." Ancient history ascribes to the Phœnicians the invention of casting accounts, and keeping registers of everything that relates to the affairs of merchants. Improved methods would be necessary in managing public revenues, and men would naturally be led to find out ways of abridging and improving their methods of calculation.

The operations of arithmetic depend on the two simple processes of addition and subtraction, and these presuppose numeration which furnishes arithmetic with the crude material for all its operations. Arithmetic most probably began with practical numeration, of several objects, as the number of a herd of cattle or of a flock of sheep. It is highly probable that the fingers of one or both hands were the first instruments used to assist them in the counting by sets. Homer represents Proteus as counting his sea-calves by fives —that is, by his fingers; and in common with all early Greek writers Homer employs the word πεμπαζειν, which literally means to count by the five fingers. Æschylus and Plutarch also supply evidence of the same kind.

The remains of the early Greek writers on numbers are very scanty. The leading names are Pythagoras, Euclid, Archimedes, Diophantus, Pappus, and Proclus, down to the end of the fourth century, but our limits preclude a detailed statement of their several improvements and discoveries.

It is uncertain whether the Hindus received their astronomical and other mathematical sciences from the Greeks, or the Greeks theirs from the Hindus. Perhaps both received their knowledge from some independent source. The Hindu notation is distinguished by "the device of place," which has given both perfection and simplicity to their system of calculation. In 1817 Mr. Colebrooke published a translation of four ancient treatises on Arithmetic and Algebra, written in the Sanscrit language. They are found in the midst of a system of astronomy entitled "*Brahma-Siddhanta*," a fact which shows that they were not probably of recent invention. Nearly all the examples in the algebra relate to astronomy, and the whole of the treatises are in Sanscrit verse. The probable date is A.D. 628, and their author was Brahmegupta. The other two treatises are entitled *Lilavati* and the *Vija Ganita*, the first on arithmetic, the second on algebra. Their author, Bhascara Acharya, composed them about A.D. 1114. The Vija Ganita contains nine chapters explaining positive and negative quantities, surds, simple and quadratic equations, indeterminate equations of the second degree, and the application of algebra to geometry.

It appears the Persians were indebted to the Arabians for whatever mathematical knowledge they acquired, as the Arabians had been to the Greeks and Hindus. The *Risala Hisab* is a short treatise on arithmetic and geometry written in the Persian language by Kazi Zadeh al Rumi about A.D. 1450.

Baha Eddin, who died about A.D. 1652, was the author of an algebra called "*Kholasat al Hisab*," which was translated into the Persian language. The Hindu *Lilavati* and the *Vija Ganita* were also translated into Persian. The following extract from a Persian algebra in verse shows that they borrowed their terminology from the Arabs:—"Complete the side in which the expression *illa* (minus) occurs, and add as much to the other side, O learned man: this is in correct language called *jebr*. In making the equation mark this: it may happen that some terms are cognate and equal on each side, without distinction; these you must on both sides remove, and this you call *mokabalah*."

Western Europe produced few students of eminence in mathematical science during the middle ages. Some individuals, however, travelled into foreign countries in search of knowledge. Adelard, a monk of Bath, first brought to England a translation of Euclid's Elements from the Arabic. John of Basingstoke, Roger Bacon, Isidorus Hispalensis, Bede, the Venerable, and Alcuin, were great scholars, and did something towards introducing a knowledge of mathematics. Gerbert, the most remarkable man of his age, Leonardo Bonacci of Pisa, Paoli di Dagomari, 1350, Raffaelo Caracci—all these combine to show that the Italians were in possession of the science of algebra long before the rest of western Europe.

The oldest treatise on algebra in the Arabic language was composed by Abu Abdallah Mohammed Ben Musa about A.D. 813. It is highly probably that he derived his knowledge from the Hindus, for the Arabians wrote their figures from *left to right* after the Hindu fashion, while their language is written from right to left. The algebra of Mohammed Ben Musa is elementary, exhibiting fundamental operations, mensuration of triangles, circles, &c., but not extending beyond the solution of simple and quadratic equations. He gives no name or definition of the science, nor does he give a formal explanation of the terms *al jebr* and *mokabalah*, by which he designates certain operations peculiar to the solution of equations, but he repeatedly employs these two terms combined for the name of the entire science.

Al jebr is derived from the Arabic verb *jabar*, which means *to restore something broken*. The word *mokabalah* is a verbal noun from a verb which means to compare two things with one another, and is used mathematically to express a comparison between positive and negative quantities. Thus, as applied to equations *al jebr* meant restoration, and *mokabalah*, reduction, or addition and subtraction of equals on both sides of the equality. The Arabians did not adopt the Hindu notations, they held a less general notion of equations, and their method of solving equations was different from that of the Hindus; for instance, they had no conception of the equation $x^2+px+q=0$, the sum of three positive quantities$=0$, otherwise than as an absurdity.

Among the writers subsequent to Mohammed Ben Musa may be mentioned Abufaraj, Abu Yusef Alkindi, Ahmed Ben Mohammed, Abu Hanifah, Abulwafa, and Omar Alkhayyania, whose algebra was translated into French in 1851 by Dr. F. Woepcke. It was probably composed about A.D. 1000.

The first algebra printed in Italy was that of Lucas Paciolus, in 1494, with the title "L'Arte Maggiore ditta dal Volgo de la Cosa over Alghebra e Almucabala." After the appearance of this work arithmetic and algebra engaged the attention of learned men both in Italy and in other western countries of Europe, and were considerably advanced and improved, especially in the matter of abbreviations and new and convenient characters. Among eminent Italians we may note Jerome Cardan, who published discoveries in cubic equation 1539; and Nicolas Tartaglia (1500), who made these discoveries. Among the Germans, John Muller; Michael Stife or Stifelius, who surpassed his predecessors and contemporaries by his "Arithmetica Integra," and led the way to further extensions and improvements; and John Scheubel, professor of mathematics at Tubingen.

Robert Recorde, M.D., composed the first treatise on algebra in the English language, printed 1552. The second part is called "The Whetstone of Witte, containing the extraction of roots, the Cossike practice with the rules of equation, and the workes of surde numbers." It is in the form of a dialogue, and treats of the properties of numbers, square and cube roots of algebra, or cossic numbers, and of the roots of compound algebraic expressions. It employs the notation of Stifelius, and contains rules for the solution of simple and quadratic equations with numerous examples. Recorde was the first to use the terms binomial and residual, and the sign $=$.

The great names after the time of Recorde are Bombelli of Bologna, 1579, Vieta, Clavius, Thomas Harriot, William Oughtred, Réné Descartes, Francis Schooten of Leyden, Henry Briggs, Pierre de Fermat, Dr. John Wallis of Oxford, 1656, La Grange, Gregory, Dr. Borrow, Sir Isaac Newton, Euler, and Leibnitz.—*Abridged and re-written by the editor from the Notices of Robert Potts, M.A., in his Algebra, London*, 1879.

AN OLD MAGAZINE.

"Whether doth the moon at full and change really affect lunatic people; and if it doth, how, and in what manner doth it work this strange alteration in them?" This is the first query we hit upon in the pages of "Mathematical, Geometrical, and Philosophical Delights." London, 1794.

We make a few extracts, to exhibit the character of the work done a hundred years ago in a magazine which ranged over the whole Cambridge course of pure and mixed mathematics. A great portion of the problems lie beyond the limits likely to be interesting to the majority of our readers. We therefore cull only a few quaint and a few short examples.

Query 16 by Philo: It is well known from repeated observations, that in hot weather when the sun has shined for several days successively, the effect of the burning glass is much weaker than when the sun shines immediately after a shower. Required the reason of the phenomenon.

SOLUTION—From experience it is well known, that heat exhales from the earth a prodigious number of sulphureous homogeneous particles, which by their gravity float in the atmosphere, absorb and prevent the incorporating rays from falling parallel, or with such great coalescence upon the mirror. When immediately after a shower, the rain precipitating the sulphureous particles purges the air of its absorbing matter, so that the numerous converging rays fall parallel upon the mirror, and are driven against the combustible body, with an incredible, superlative, inflammable force.

69. Given $x+y\times\sqrt[3]{z}=1775$,
and $xyz=28336$,
also $x^3y^2z+x^2y^3\times\sqrt[3]{z^4}=178149848800$, where x represents the year, y the month, and z the day of the month wherein I was born.

SOLUTION—Divide the third equation by the product of the first and second and you will have $xy=3542$, and by the second $xy=28336\div z$; these values of xy being equated z is found$=8$; now z being known the first and second equations become $x+2y=1775$, and $xy=3542$, whence by subtracting 8 times the latter from the square of the former and extracting the root we get $x-2y=1767$, hence by addition and subtraction $x=1771$, and $y=2$, consequently I was born February 8th, 1771.

84. By J. P. O. Sullivan, Esq.: From the following equations be pleased to try—If you can find x equal four times y.
$x+y^3+x\div y=144$, and $x^2+y^2+x^5\div y^2=4608$.

At a village in Yorkshire, on the brink of the Swale,
Where cowslips and violets their sweet odours exhale,
Dwells a maid of real beauty, and wisdom refined;
She's the pride of her sex—and the hope of my mind.
From the equations below, learned gents, pray unfold,
The name of this fair one whom I prize above gold.

(1) $\frac{1}{2}(w+x)+yz=79$.
(2) $\frac{1}{3}(x+y)+zw=90$.
(3) $\frac{1}{5}(w+z)+xy=22$.
(4) $\frac{1}{7}(y+z)+wx=24$.

Where w, x, y, and z shew the letters in the alphabet composing her name. Thus Mr. T. Keith wrote an equation "to his mistress's eyebrow." We leave our readers to verify the solution, which covers more than a page of the *Delights*, and makes "Ward the name of this beautiful lady."

The editor, Mr. Thomas Whiting, Master of Keppel-House Seminary, in his remarks to correspondents announces: "No. 11 will be published on July 10th, 1798, and all letters for its use must come to hand before the *First of January*, and they must be franked or post-paid, or they will not be received."

PROBLEMS.—(SELECTED.)

1. A and B engage to reap a field for \$90. A could reap it in 9 days, and they agree to finish it in 5 days, in consequence of which they were obliged to get C to help them for the last two days, and B received \$3.75 less than he otherwise would have done. In what time could B or C reap the field? *Ans.* B, 15 days; C 18 days.

2. Find the amount of 1 cent at 6%, compound interest, from the Birth of Christ to January 1st, 1882, say 1881 years.
Given log. 1.06 = ·02530586526.
Ans \$3984130,000,000,000,000,000,000,000,000,000,000,000,000,000

3. If 30 acres of grass pasture 40 horses 50 days, and 60 acres 70 horses 80 days, how long will 90 acres support 100 horses, the grass growing uniformly all the time. *Ans.* 100 days.

4. With the interest already due on a certain mortgage and that which will arise while the work proceeds, I can exactly pay the wages of 15 men for 11 months, or 31 men for 5 months, wages being uniform. Find how long I could engage 9 men on the same plan. *Ans.* 20 months.

5. Given $(x+y)(1+xy+x^2y+xy^2+x^2y^2)+xy=a\ldots(1)$
$xy(x+y)(x+y+xy)(x+y+xy+x^2y+xy^2)=b\ldots(2)$
to find x and y.

SOLUTION—In placing successively $x+y=t$, $xy=t^1$, $t+t^1=n$, $tt^1=n^1$, $n+n^1=u$, $nn^1=u^1$, we obtain $u+u^1=a$, and $uu^1=b$, which shows that u and u^1 are the roots of the equation $U^2-aU+b=0$; u and u^1 being known, we have u and u^1 by the equation, $V^2-uV+u^1=0$. Then we would have t and t^1 by the relation $T^2-nT+n^1=0$, and finally $X^2-tX+t^1=0$ would give x and y.

6. Two trains, a Passenger and Freight, leave the southern end of a railroad and travel north at the same instant that an Express leaves the nothern end of the same road going south. When the Passenger train arrives at middle station, the Freight is midway beween the Passenger and Express. The Passenger train then moves on 60 miles when it is as far from the middle station as the Freight, and the Express has finished the journey: here an accident happens that delays the Passenger 10 hours, when it proceeds on its journey and arrives at the destination at the same time as the Freight. Required the rate of each, and the length of the road.

SOLUTION—Let t=the time it takes the Passenger to make half the journey, x=the rate of the Passenger, y=the rate of the Freight, and z=that of the Express. Then $2tx$=the length of the road, $tx-ty$=the distance of the Freight from the Passenger when the Passenger arrives at the middle station, and $tz-tx$=the distance of the Express from the Passenger; hence, since the Freight is midway between the Passenger and the Express, we have—

$$tz-tx=2(tx-ty), \text{ or } 3x=2y+z\ldots(1).$$

When the Passenger is 60 miles past the middle station, the distance of Freight from that station is $tx+ty-(60y\div x)=60$..(2), and since the distance traveled by the Express at that time=the sum of the distances traveled by the other two trains, we have $z=x+y$..(3). The difference of the time required for the Passenger and Freight to make the journey is $(2tx\div y)-2t=10$..(4).

Subtracting $(2)\times 2$ from $(4)\times y$, we have $xy=12(x+y)$..(5). From (1) and (3) $y=\frac{2}{3}x$. Substituting this value of y in (5), we find $x=30$ miles, $y=20$ miles, $z=50$ miles, and $2tx=10xy\div(x-y)=600$ miles.

7. A debt of \$10000 is to be paid in 10 equal instalments, with interest at 8 per cent. per annum compounded every instant. Three of the equal payments are made before any interest accrues. An instalment is then paid at the end of each year until the year before the last, when no payment is made: two instalments being paid at the end of the last year. Required one of the equal payments.

SOLUTION—Let a=\$10000, the debt, $r=8$ per cent., $t=7$ years, the time in which the debt was paid, x=one of the equal payments, and let each year be divided into n equal intervals.

Then if the interest is compounded at the end of each interval, the amount of the debt a at the end of t years is $a\left(1+\frac{r}{n}\right)^{nt}$ which developed by the Binomial Formula,

$$=a\left\{1+nt\left(\frac{r}{n}\right)+\frac{nt(nt-1)}{1.2}\left(\frac{r}{n}\right)^2+\frac{nt(nt-1)(nt-2)}{1.2.3}\left(\frac{r}{n}\right)^3+\ldots\right\}$$

$$=a\left\{1+tr+\frac{t(t-\frac{1}{n})}{1.2}r^2+\frac{t(t-\frac{1}{n})(t-\frac{2}{n})}{1.2.3}r^3+\ldots\right\}$$

But when the interest is compounded every instant, n is infinitely large, and hence each of the fractions $\frac{1}{n}, \frac{2}{n}, \ldots$ is equal to O, and the above series becomes

$$a\left(1+tr+\frac{t^2r^2}{1.2}+\frac{t^3r^3}{1.2.3}+\ldots\right)=ae^{tr}=ae^{7r},$$

where $e=2.71828128$, the Naperian base of logarithms. The amount of the three payments made at first is $3xe^{7r}$; that of the payment made at the end of the second year is xe^{6r}; and so on. Now since the sum of the amounts of the payments must be equal to the amount of the debt, we have

$$x(3e^{7r}+e^{6r}+e^{5r}+e^{4r}+e^{3r}+e^{2r}+2)=ae^{7r},$$

$$\text{whence } x=\frac{a(e^{8r}-e^{7r})}{3e^{8r}-2e^{7r}-e^{3r}+2e^{r}-2}=\$1234.50$$

8. Find the par value of \$11000 debentures issued for 25 years, interest payable @ 6% per annum; *i.e.* 3% half yearly. Money worth 7% per annum.

SOLUTION—At the end of 25 years the buyer will have received the following sums:—

Capital repaid							=\$11000
49th and last payment of interest							= 330
48th payment—in hand half a year—value							= 330(1·035)
47th	"	"	one	"	"		= 330(1·035)^2
46th	"	"	$1\frac{1}{2}$	"	"		= 330(1·035)^3
&c.			&c.				= &c.
1st	"	"	$24\frac{1}{2}$	"	"		= 330(1·035)^{49}

Total product of debentures in 25 years.

$$=\$11000+330+330(1{\cdot}035)+330(1{\cdot}035)^2+\&c.+330(1{\cdot}035)^{49}$$

$$=11000+330\{1+1{\cdot}035+1{\cdot}035^2+\ldots.1{\cdot}025^{49}\}$$

$$=11000+330\times\frac{1{\cdot}035^{50}-1}{1{\cdot}035-1}$$

Now log. $1{\cdot}035^{50}=50$ log. $1{\cdot}035=50\times{\cdot}0149403={\cdot}747015$
$=$log. $5{\cdot}58491$.

$\therefore$ prod. of deben. $=11000+(330\times 4{\cdot}58491)\div{\cdot}035=\$53980{\cdot}058$.

We have now to find the present worth of this in 25 yrs @7% per an.

Present worth $=53980{\cdot}058\div(1{\cdot}07)^{25}$.

Now log. $1{\cdot}07^{25}=25$ log. $1{\cdot}07$,

$=25\times{\cdot}0293838={\cdot}734595=$log. $5{\cdot}42745$,

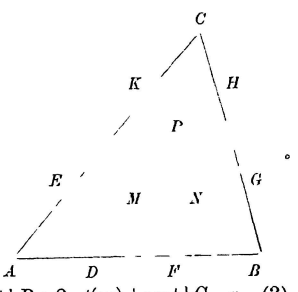
And $53980{\cdot}058\div 5{\cdot}42745=\$9945{\cdot}749$.

Hence \$1100 debentures=\$9945·749,

i.e. \$1 " = ·9041+ or $90\frac{1}{2}$ nearly.

9. The sides of a triangle being 130, 140, and 150, what are the radii of three circles so inscribed that each of them touches the other two and two sides of the triangle?

SOLUTION BY PROF. SEITZ, Missouri Normal Schools.



Let ABC be the triangle, M, N, P, the centres of the circles, D, E, F, G, H, K, the points of tangency.

Let $MD=x$, $NF=y$, $PH=z$, r=radius of the inscribed circle of the triangle ABC, $BC=a=130$, $CA=b=140$, and $AB=c=150$. Then we have $AD=AE=x\cot\frac{1}{2}A$, $BF=BG=y\cot\frac{1}{2}B$, $CH=CK=z\cot\frac{1}{2}C$, $DF=2\sqrt{(xy)}$, $GH=2\sqrt{(yz)}$, $EK=2\sqrt{(xz)}$, $r=40$, and we have the equations,

$x\cot\frac{1}{2}A+2\sqrt{(xy)}+y\cot\frac{1}{2}B=c$...(1) $x\cot\frac{1}{2}A+2\sqrt{(xz)}+z\cot\frac{1}{2}C=b$..(2) $y\cot\frac{1}{2}B+2\sqrt{(yz)}+z\cot\frac{1}{2}C=a$..(3)

By trigonometry we have

$$\frac{\sin\frac{1}{2}B\cos\frac{1}{2}B}{b}=\frac{\sin\frac{1}{2}C\cos\frac{1}{2}C}{c}..(4), \text{and } \frac{\sin\frac{1}{2}A\cos\frac{1}{2}A}{a}=\frac{\sin\frac{1}{2}C\cos\frac{1}{2}C}{c}..(5);$$

and from these two equations we can deduce the following,

$b(\cot\frac{1}{2}A-\tan\frac{1}{2}B)=c(\cot\frac{1}{2}A-\tan\frac{1}{2}C)$..(6), and

$a(\cot\frac{1}{2}B-\tan\frac{1}{2}A)=c(\cot\frac{1}{2}B-\tan\frac{1}{2}C)$..(7).

Dividing (1) by (2) and (3) respectively, and clearing of fractions, we have

$b[x\cot\frac{1}{2}A+2\sqrt{(xy)}+y\cot\frac{1}{2}B]=c[x\cot\frac{1}{2}A+2\sqrt{(xz)}+z\cot\frac{1}{2}C]$..(8),

and $a[x\cot\frac{1}{2}A+2\sqrt{(xy)}+y\cot\frac{1}{2}B]=c[y\cot\frac{1}{2}B+2\sqrt{(yz)}+z\cot\frac{1}{2}C]$..(9).

Subtracting $(6)\times x$ from (8), and $(7)\times y$ from (9), we have

$b[x\tan\frac{1}{2}B+2\sqrt{(xy)}+y\cot\frac{1}{2}B]=c[x\tan\frac{1}{2}C+2\sqrt{(xz)}+z\cot\frac{1}{2}C]$..(10),

$a[x\cot\frac{1}{2}A+2\sqrt{(xy)}+y\tan\frac{1}{2}A]=c[y\tan\frac{1}{2}C+2\sqrt{(yz)}+z\cot\frac{1}{2}C]$..(11).

Multiplying (10) by (4), and (11) by (5), and extracting the square root, we have

$\sqrt{x}\sin\frac{1}{2}B+\sqrt{y}\cos\frac{1}{2}B=\sqrt{x}\sin\frac{1}{2}C+\sqrt{z}\cos\frac{1}{2}C$..(12), and

$\sqrt{x}\cos\frac{1}{2}A+\sqrt{y}\sin\frac{1}{2}A=\sqrt{y}\sin\frac{1}{2}C+\sqrt{z}\cos\frac{1}{2}C$..(13).

Subtracting (13) from (12), we find

$$\frac{\sqrt{y}}{\sqrt{x}}=\frac{\sin\frac{1}{2}C+\cos\frac{1}{2}A-\sin\frac{1}{2}B}{\sin\frac{1}{2}C-\sin\frac{1}{2}A+\cos\frac{1}{2}B}=\frac{\cos\frac{1}{4}C+\cos\frac{1}{4}(2B+C)}{\cos\frac{1}{4}C+\cos\frac{1}{4}(2A+C)}=\frac{\cos\frac{1}{4}B\cos\frac{1}{4}(\pi-A)}{\cos\frac{1}{4}A\cos\frac{1}{4}(\pi-B)}$$

$$=\frac{1+\tan\frac{1}{4}A}{1+\tan\frac{1}{4}B}..(14). \quad \text{Similarly } \frac{\sqrt{z}}{\sqrt{x}}=\frac{1+\tan\frac{1}{4}A}{1+\tan\frac{1}{4}C}..(15).$$

Substituting the value of $\sqrt{y}$ from (14) in (1), we have

$$\left\{\cot\tfrac{1}{2}A+2\left(\frac{1+\tan\frac{1}{4}A}{1+\tan\frac{1}{4}B}\right)+\cot\tfrac{1}{2}B\left(\frac{1+\tan\frac{1}{4}A}{1+\tan\frac{1}{4}B}\right)^2\right\}x=c,$$

$$\text{or } \left\{\frac{1-\tan^2\frac{1}{4}A}{2\tan\frac{1}{4}A}+2\left(\frac{1+\tan\frac{1}{4}A}{1+\tan\frac{1}{4}B}\right)+\frac{1-\tan^2\frac{1}{4}B}{2\tan\frac{1}{4}B}\left(\frac{1+\tan\frac{1}{4}A}{1+\tan\frac{1}{4}B}\right)^2\right\}x=c,$$

whence

$$x=\frac{2c\tan\frac{1}{4}A\tan\frac{1}{4}B(1+\tan\frac{1}{4}B)}{(1+\tan\frac{1}{4}A)(\tan\frac{1}{4}A+\tan\frac{1}{4}B)(1-\tan\frac{1}{4}A\tan\frac{1}{4}B)[1+\tan\frac{1}{4}(A+B)]}$$

$$=\frac{c\sin\frac{1}{2}A\sin\frac{1}{2}B(1+\tan\frac{1}{4}B)}{\sin\frac{1}{2}(A+B)(1+\tan\frac{1}{4}A)[1+\tan\frac{1}{4}(\pi-C)]}=\frac{r(1+\tan\frac{1}{4}B)}{(1+\tan\frac{1}{4}A)[1+\tan\frac{1}{4}(\pi-C)]}$$

$$=\frac{\frac{1}{2}r(1+\tan\frac{1}{4}B)(1+\tan\frac{1}{4}C)}{1+\tan\frac{1}{4}A}=\tfrac{5}{2}(17+4\sqrt{5}-2\sqrt{13}-\sqrt{65})=26{\cdot}677279.$$

Substituting the value of x in (14) and (15), we find

$$y=\frac{\frac{1}{2}r(1+\tan\frac{1}{4}A)(1+\tan\frac{1}{4}C)}{1+\tan\frac{1}{4}B}=\tfrac{20}{7}(17-4\sqrt{5}-2\sqrt{13}+\sqrt{65})=25{\cdot}44823$$

$$\text{and } z=\frac{\frac{1}{2}r(1+\tan\frac{1}{4}A)(1+\tan\frac{1}{4}B)}{1+\tan\frac{1}{4}C}=\tfrac{10}{3}(17-4\sqrt{5}+2\sqrt{13}-\sqrt{65})=24{\cdot}015.$$

This problem is known as Malfatti's Problem, being first solved in 1803 by John Francis Malfatti, an Italian geometer. It is a celebrated problem, and has been variously solved by a number of mathematicians.

ANSWERS TO CORRESPONDENTS.

The mass of correspondence we receive reveals the interest many readers take in this department. We take this opportunity to thank many kind friends for hints and suggestions which will enable us to make these columns still more useful to subscribers. During the coming school year we hope to continue our papers on elementary algebra and also to find room for some geometrical exercises.

MR. H. A. MCCALLUM, Waterford, Ont., MR. JOHN MOSER, South Tay, N.B., MR. JOHN ANDERSON, Candasville, Ont., and MR. G. H. ARMSTRONG, Boston Mills, Ont., have sent solutions of problems in April number, which are held over

MR. EDGAR KESNER, Ameliasburg, and MR. JAMES SUTHERLAND, Strathroy, have furnished us with a solution of problem 7, ii., jun. matric., given in June number. The following is the method :

$$\frac{1}{\sqrt{3}(1+\sqrt{3})} = \frac{1}{\sqrt{3}} - \frac{1}{1+\sqrt{3}}$$

$$\frac{1}{(1+\sqrt{3})(2+\sqrt{3})} = \frac{1}{1+\sqrt{3}} - \frac{1}{2+\sqrt{3}}$$

$$\&c. = \&c.$$

$$\frac{1}{(n-1+\sqrt{3})(n+\sqrt{3})} = \frac{1}{n-1+\sqrt{3}} - \frac{1}{n+\sqrt{3}}$$

$$\text{Sum} = \frac{1}{\sqrt{3}} - \frac{1}{n+\sqrt{3}} = \frac{n}{\sqrt{3}(n+\sqrt{3})}$$

When n becomes infinite, $\frac{1}{n+\sqrt{3}}$ vanishes and sum $= \frac{1}{\sqrt{3}}$.

MR. DANIEL O'DOHERTY, McGregor, Ont., informs us in answer to a query that a solid cube of 10 ft. cut from a mow of hay will weigh a ton.

MR. ARMSTRONG asks how a ship at sea is able to determine whether it is north or south of the equator. We know of no way but by making observations on the stars. The Nautical Almanac would give the precise position of the constellations which are easily recognized. The sun's declination must be subtracted or added according as the ship is on the same or on the opposite side of the equator.

CORRESPONDENT, North Platte, Neb., wishes a correct solution to the following problem : A hollow cylinder, inside dimensions 10 ft. long and 5 ft. diam., lies on its side filled with oil to the depth of $3\frac{2}{3}$ ft. How many gallons ?

We trust all our friends from Nova Scotia to the Pacific may find a very successful solution to that majestic problem : How to develop unlimited enjoyment from finite holidays.

WANTED, THE SCHOOLMASTER.—A recent examination of elementary teachers in Cape Colony brought out some little-known statistics as to the distribution of population. The candidates varied in their estimates of the population of London from 300,000,000 down to 3,000 ; Manchester has 200,000,000 against Leeds with 300, and Wolverhampton—there is nothing like accuracy —with 569 ; while 10,000, according to one candidate, is the number for Holland and Belgium together. Equally, scientific accuracy was evidently the forte of the elementary teacher who considers that "electricity and lightning are of the same nature, the only difference being that lightning is often several miles in length, while electricity is only a few inches;" and of another who defines electricity as "the orbit described by the sun round the earth, but in realiity tne earth round the sun."

The Kentucky superintendent of schools furnishes these statements:—Of every 100 of the state's population, 15 cannot read. Of every 100 whites over ten years old 15 cannot write. Of every 100 negroes over ten years of age, 49 cannot write. Of every 100 men over 21 years old, 17 cannot write, Of every 100 negro men over 21 years old, 75 cannot write. The whole number of men over 21 years who cannot write forms an array of 76,221.

Correspondence.

THE RECENT EXAMINATION.

To the Editor of the CANADA SCHOOL JOURNAL:—

SIR,—I shall perhaps render a not unwelcome service to several teachers, if I point out a few of the mistakes which have most frequently attracted my notice in answers to the questions on the English Language and Literature at the recent Examination.

Learners should be cautioned against the mistake of deriving Anglo-Saxon words from Modern German. It is quite wrong to say that "as" is *derived* from "als," "shall" from "sollen," or "may" from "mögen." English and German are collateral descendants from a common stock ; but the one is no more *derived* from the other than one of two sisters is the child of the other.

By about half the candidates the analysis was better done than before, but the rest showed a very feeble grasp of the relation of subordinate clauses to the entire sentence. But what can be expected when learners are taught to set out columns headed "Subject," "Predicate," "Object," &c., and to find the Object of a transitive verb like *said*, by putting the interrogative "whom" or "what" with the verb, but when they have to deal with a sentence like that set for analysis, are allowed to leave the column headed "Object" blank, although the simple application of their test for the object would show that the column ought to be filled up with the rest of the sentence ? There was also a pretty general neglect of the distinction between a conjunction such as "that," which is a connective and nothing more, and a word like "which," which is not only a connective—but a pronoun as well, and so requires to have its own construction indicated.

If candidates are intended to show any acquaintance at all with Anglo-Saxon forms, it is really not too much to expect that they should be able to write correctly the fifteen or twenty words which serve to explain the pronouns, and a few anomalous verbs. The excellent work of several showed that the feat is not difficult. A pupil must have been very badly drilled when he sets down as the origin of so common word as "that," forms such as *thea, theat, theot, thicce, thacce*, &c. In one series of papers the form *haet* occurred so regularly as to lead me to conjecture that some teacher had mistaken the Anglo-Saxon Thorn (þ), for an eccentric mode of writing *h*. The derivation of *that* from *the* and *at* (=*the* one *at* that place) was novel.

Beginners, who fancy that *thither* and *thence* come from *thou* or *thee*, *whither* (sometimes given as *wither*) from *we*, and *hither* from *I*, had better steer altogther clear of etymological questions.

It is necessary to inform a very large number of the candidates that "but" is not compounded of the *verb* "be" and "out," (though they will find the blunder repeated in many books,) but of the *preposition* "be" or "by," in the same way as "behind," "before," &c. Also, if asked to state the different ways in which "but" is used, let them abstain from calling it a *noun*. The question has reference to "but" as a *significant word*, and not to the mere combination of *b-u-t*.

Some very wild work was made with the abstract nouns, most (for example) giving "age" as the abstract noun derived from "old." A good many (whose delicate hand-writing betrayed their sex) gave "rouge" as the abstract noun from "red." It is to be hoped that this does not betoken a too early familiarity with the *concrete* article.

In the answers on English Literature, some very good and careful work was shown up by a considerable number, but in too many cases there was evidence of superficial and hasty cram-work, often in connection with mere *viva voce* lessons. Teachers should convince themselves that this sort of thing does not "pay," as very few marks are gained by answers in which Spenser's "Duessa" is called "Guessa" or "Odessa," his "Belphoebe" "Belle Phoebe," and his estate located at Kilmainham, Kilmarnock, or Kilimanjaro. No candidate who had once *read* the names with attention could give *Ascambe* for *Ascham*, *Atnerway* for *Hathaway*, or *Aronis and Vesuvius* for *Venus and Adonis*. Moreover, candidates who have evidently never read a single stanza of Spenser are not expected to express (at second hand) the valuable opinion that "the six books of the Faerie Queene form a descending scale of merit," any more than that the coquettish Rosalind "little knew the worth of the jewel she had flung away, when she made a plaything of the poet's heart," &c., &c. When remarks of this sort, expressed in exactly the same words, have been forced on one's attention a few score times, they get just a little wearisome.

Let me add, as a caution to not a few, that teachers must exercise some care in the selection and use of their text-books. They must not swallow every bit of pretended etymology that comes in their way, simply because they see it in a printed book. They must take the trouble to compare the books they use with some recognized authority. Skeat's "Concise Etymological Dictionary," or Morris's "Historical English Accidence," will do well for this purpose. In one series of papers the candidates astonished me by some wonderful etymological gems, which I found came (at second hand) from Horne Tooke. Now Horne Tooke was no doubt a very acute and ingenious man, and he had grasped an important philological principle, which, however, he applied with more courage than discretion. But he was fonder of brilliant guessing than of patient investigation, and he wrote at a time when Scientific Philology and Comparative Grammar were as yet unknown, and Grimm's Law was still "in the blue distance." He had not the least idea that, to know the derivation of English words, we must track English roots and forms, not only in Dutch, German, or Scandinavian, but in Latin, Greek, and Sanscrit. In such circumstances, he naturally made the most astounding blunders, and the result is that his etymological guesses are not merely quite untrustworthy, but are, to a great extent, a mere farrago of rubbish.

It will amuse your readers if I give two or three illustrations of this :—

It is now part of the ABC of Philology that the final *t* of *that*, like the *t* of *hit* or *it* (from *he*), and *what* (from *who*), is a neuter suffix, answering to the *d* of the Latin *id*, *illud*, *quod*, &c., and that the stem of the word (*the* or *tha*) is a pronominal root, corresponding (in conformity with Grimm's Law) to the *de* or *da* of the German article, and to the *to* or *ta* found in the Greek article, and the Latin *tum*, *tam*, &c. Horne Tooke assures us with the most jaunty self-confidence that the word "that" (=*thead* or *theat*) is the past participle of the verb *thigan* "to take," (which, by the way, he confounds with *theon* "to thrive," and fits out, of his mere will and pleasure, with a past participle of the *weak* formation); while "it" (*i.e.*, *hit*) is the past participle of *hatan*, "to be named," "that" and "it" meaning "what is assumed or spoken of before."

Again, take the word "since." Its pedigree is as clear as daylight. It is a shortened form of "sithence," which is formed with the adverbial genitival suffix *s* or *ce* (like *hence*, *once*, &c.), from "sithen," a slight modification of the Anglo-Saxon "siththam," which answers exactly to the German *seitdem*, and is made up of the preposition *sith* "after," and *tham*, the dative of the demonstrative, "sith" being a well-known preposition derived from an adjective which means "late," and appearing as an adverb (*seithu* "late") in Gothic. Horne Tooke tells us that "since" is derived from the verb "to see," and (as a preposition) means "*seen* and *thence* forward," while as a conjunction it is made up of "seeing" or "seen," and "as"—"seeing-as," or "seen-as."

The word "head" (A.S. *heafod*) is a very interesting illustration of the identities which a scientific study of the laws of letter-change enable us to trace. When it is known that we may expect an initial *c* in Latin to appear as *h* in English (compare *cord-* and *heart*), a Latin *p* as *f* (compare *pater* and *father*), while the dentals *t* and *d* frequently interchange with *l* (compare *lingua* and *tongue*), it is easy to see that the Anglo-Saxon *heafod* is essentially the same word as *caput* in Latin, *kephalé* in Greek, and *kapála* in Sanscrit. Horne Tooke (again ignorant or heedless of the difference between strong and weak verbs) makes "heafod" a past participle of *hebban* "to lift up."

Just one more specimen. Horne Tooke (who throughout labours under the delusion that a personal suffix of a verb may serve as a formative suffix of a noun) tells us that "tooth" is merely the third person singular of *teogan* "to tug," and means "that which *tuggeth*." Any one who has sat as a victim in one of those agonizing easy chairs which are to be found in certain professional back parlours, might have supposed that a tooth is rather "that which *is tugged*" than "that which *tuggeth*." The etymology is outrageously absurd. The word "tooth" (like *mouth*, *goose*, &c.) has lost an "*n*," which appears in the Gothic *tunthus*. Grimm's law of letter-change shows us that the *t- n- th* of this word answer to the *d- n- t* of the Latin *dent-em*, the Greek *odont-a*, and the Sanscrit *danta*, which are participal forms based either on the root *da*="divide," or on *ad*="eat."

Except for the purpose of amusing the reader, it would hardly have been worth while to spend so much space in exposing Horne Tooke's etymological absurdities. But unfortunately they are still taught in schools, and crop up at examinations. As it happens, Horne Tooke has found a docile disciple in Mr. L. P. Fleming, who has adopted the whole farrago in his "Analysis of the English Language." This is a great pity, as it spoils a book which contains a great deal of excellent material and much thoughtful work, and which, if the author would be better advised in the matter of etymology, not to mention strong verbs and one or two other little points, might be rendered a valuable and serviceable manual. As it is, teachers who use it would do well to check the etymological part by constant reference to Skeat's "Etymological Dictionary."

Yours faithfully,

January 1, 1883. C. P. MASON.

To the Editor of the CANADA SCHOOL JOURNAL:—

SIR,—Circumstances have lately directed my attention to a paper on "The Subjunctive Mood," published in the May number of your JOURNAL this year, and read at a West Huron teachers' convention last February. After a first reading of the article, I felt glad that we had in this district a teacher capable of dealing with so difficult a subject in such a satisfactory manner. After a little research, however, which I have lately made among a file of old journals, I am compelled to entertain a very different feeling. I am in a quandary, and for my own and others' satisfaction, and for the honor of the teachers of West Huron, I want some one to get up and explain. If any of the readers of your JOURNAL will take the trouble to look in the September number, 1879, they will find an article there, on "The Subjunctive Mood," written by Mr. J. H. Stewart, of Perth High School, which bears a very striking resemblance, to say the least, to the article of our talented West Huronite. The ideas throughout are the same in both, and the language in several sentences is identical. Now, what are we to suppose? Are we to come to the conclusion that the man from West Huron has given us a rehash of Mr. Stewart's article of 1879, or are we to suppose that Mr. Stewart had a glimpse of the former's MS. and published it without the author's knowledge? Perhaps the latter is the case. Perhaps the teacher in this district followed the example of some authors and kept his piece seven years before publishing it. This would leave its production some years previous to the appearance of Mr. Stewart's paper. If that were the case, it is only reasonable to infer that Mr. Stewart was the borrower, and in order to borrow he must have had access in some way or other to our friend's MS. Men often think similarly, but such a coincidence of thought and expression as that to which I have referred is so extremely rare in this part of the country that it is no wonder that readers of your JOURNAL here wish an explanation. The teachers of West Huron are as sound in their principles and as original in their ideas as their brethren of most districts, but still they are desirous to learn, hence their anxiety to have this literary mystery unravelled.

Thanking you for the space allowed me, I remain, sir,

Yours truly,

West Huron, June, 1883. ENQUIRER.

Special Articles.

CULTURE FOR CHILDREN.

BY A. F. BLAISDELL.

Aside from all that is grotesque and exaggerated in the present æsthetic craze, there has been, as every intelligent observer knows, a notable growth of late in that which is as necessary to human life as flowers are to our gardens. In plain English, as a people we are taking fresh lessons every day in the science of the beautiful in nature and art. With all the exotic growth of the present phase of æstheticism, singularly enough, parents and teachers, as a rule, have been slow to realize the need of æsthetics for children; slow to teach them, as they grow physically and mentally, to absorb the real beauties of life. Do we often reflect what a world of beauty may be opened up, at a trifling expense, to the bright eyes of our little folks through the medium of the present profusion of artistic and literary handiwork? The gospel of color may serve, as never before, to bring good tidings to the active minds of our children. No longer need our living-rooms, bed-chambers, and school-rooms

be color-starved, when even advertising cards of exquisite workmanship are scattered broadcast as the leaves of the forest. Men and women of genius have long felt the need of revealing to children the beauties of literature and art. Many years ago, Charles Lamb and his sister wrote the charming "Tales from Shakespeare," and to this day hundreds of young eyes open wide with wonder as the great magician's plays are so beautifully told to them in the quaint words of the gentle Elia. What can be a richer treat than to listen to some good mother as she reads the old Greek myths, as told in the "Wonder Book" with Hawthorne's exquisite language? And so with other authors and their works. Longfellow and his "Evangeline," Whittier and his "Snow Bound," Lewis Carroll and the adventures of his sweet, little Alice in "Wonderland," Charles Dickens and his touching pictures of child life, Miss Yonge and her charming histories—these, and many more, are full of entertainment and instruction for little people. Nay, more, all such literature serves to educate the finer feelings, develop the power of observation, and quicken the mind to all that is true and beautiful.

A great deal of this literature must be reserved for more mature years, and yet much more of it might easily be brought within the grasp of children by intelligent parents. Think of the contrast between the artistic skill and workmanship expended upon juvenile literature to-day and that of scarcely twenty years ago! Compare the picture books of this Christmas—illustrated by Walter Crane, Kate Greenaway, Rosina Emmett, and a dozen other artists—with the ugly daubs of colors which were the best, only a few years ago. There is almost a liberal education in the study of this year's volumes of our two leading juvenile magazines.

It is not otherwise in art and music. On every side there is every opportunity, at a trifling expense, to educate the taste of children to all that is good and beautiful. With the sun as a helper, the works of the world's great artists are reproduced at a nominal sum. It is not enough that our young folks see all these things from the street, in the shop or art gallery, but the best of literature, art, and music should be simplified and given to them daily as a matter of course. The cheap photograph or heliotype print, hung up in the child's bed-room, should suggest stories to be told and retold. Every famous picture, statue, or other work of art, whether seen in the original or in copy, has in itself a story as fascinating as the "Sleeping Beauty," or the melodies of "Mother Goose" herself, if the wise parent will only throw the same glamour over them as he does over the old-time fairy tales. Every statue, every picture, and every fact, or legend of literary or historical interest, in and around one's own town, should be as familiar to every child as his own playthings. All these things must be simplified, and the stories made as interesting as one of Andersen's fairy tales. And then, again, the eyes of little people should be trained to appreciate the beauties of color. Its combinations should always be chosen with care, even in cheap adornments or wall-paper. In these and many other ways, little faces are lighted up with pleasure, and a new zest given to their lives by means within the reach of all.

Only a few more years and our children will become the men and women of the next generation. If, as a people, we are to live up to the principles of true æstheticism, our younger generation must be trained to appreciate, as it grows, mentally and physically, all the beauties of form, color, and sound. The material is all around us. It only remains for us to utilize it.—*National Journal.*

The true test of primary instruction is skill in so teaching that every child looks at the faces of the thought, and not at its clothing; studies the idea, and not its words. The immediate results appear the same; but one is a worthless sham, the other is eternal truth. Give less thought to what you teach, than how to teach it; less to what the child knows, than how she knows it.—*Primary Teacher.*

ENGLISH IN SCHOOLS.*

Why should English Literature be taught in our schools? and, What is the best way of teaching it? These are the questions which I propose to discuss.

As preliminary to such discussion, it will, I think, be rightly in place to consider, briefly, what our people are aiming to prepare their children for, and what sort of an education it is the proper business of the school to give; that is to say, what form of mind and character, and what disposition of the faculties, it is meant to impress.

Now I take it that a vast majority of the pupils in our schools are not to pass their life as students or as authors. Their main business in this world is to gain an honest living for themselves and for those dependent on them. And no plan of education is just that leaves this prime consideration behind, in quest of any alleged higher aims: for there really are no higher aims; and all pretence of such is a delusion and a snare. Some men, it is true, do more than gain an honest living; but this is the *best* thing that any man does; as, on the other hand, shining intellectually is the poorest thing that any man does, or can possibly learn to do. Then, too, most of the pupils in our schools, ninety-nine hundredths of them at the least, are to get their living by hand-work, not by head-work; and what they need is, to have their heads so armed and furnished as to guard their hand-work against error and loss, and to guide it to the most productive means and methods. And, for gaining an honest living by hand-work, the largest and best part of their education is not to be had in school; it must be got somewhere else, or not at all. The right place, the only right place, for learning the trade of a farmer or a mechanic is on the farm or in the shop. For instance, Mr. Edward Burnett's "Deerfoot Farm," in Southborough, Massachusetts, is, I undertake to say, a better school for learning agriculture than any "agricultural college" is likely to be. There is no practicable, nay, no possible way of acquiring the use of tools but by actually handling them, and working with them. And this rule holds equally true in all the walks of life—holds as true of the lawyer, the physician, the merchant, as of the shoemaker, the bricklayer, the machinist, the blacksmith.

On this point, our people generally, at least a very large portion of them, have their notions all wrong side up: their ideas and expectations in the matter are literally preposterous. How the thing came to be so, it were bootless to inquire; but so it clearly is. Parents, with us, are manifestly supposing that it is the business of the school to give their children all the education needful for gaining an honest living; that their boys and girls ought to come from the school-teacher's hands fully armed and equipped for engaging, intelligently and successfully, in all sorts of work, whether of head or of hand. And they are evermore complaining and finding fault because this is not done; that their children, after all, have only learnt how to use books, if indeed they have learnt that, and know no more how to use tools, are no better fitted to make or procure food and clothes, than if they had spent so much time in stark idleness or in sleep. Bnt the fault is in themselves, not in the school; their expectations on this head being altogether unreasonable, and such as the school cannot possibly answer. That, say what you please, is the plain English of the matter; and it may as well be spoken.

I repeat that, with very few exceptions, and those mostly applicable to girls, the most and the best that the school can do, or can reasonably be expected to do, is to educate the mind and the heart; as for the education of their children's hands, parents must,

*By H. N. Hudson, LL.D., author of *Harvard Shakespeare, Shakespeare's Life, Art, and Characters*, etc. Ginn, Heath, & Co., Boston.

yes, *must*, look for this elsewhere: probably their best way is to take it into their own immediate care, and hold themselves religiously bound to attend to it. Possibly, withal, some parents, as also some who drive the trade of idealizing about education, may need to be taught, or warned, that unless the school have something ready made to its hand, unless the pupil bring to it something inside his skull, it cannot educate his mind: brains it cannot furnish; though it is often blamed for not doing this too. And, good as vocal intelligence may be, yet, for all the practical ends, and even the dignities, of life, manual intelligence is vastly better: this it is that makes both the artist and the artisan; and without this the former, however it may prattle and glitter, can neither plough the field nor reap the corn, neither tan the leather nor make the shoe, neither shape the brick nor build the wall, neither grind the flour nor bake the bread.

But I suspect our American parents have become somewhat absurdly, and not very innocently, ambitious of having their boys and girls all educated to be gentlemen and ladies; which is, I take it, the same in effect as having them educated to be good for nothing; too proud or too lazy to live by hand-work, while they are nowise qualified to live by head-work, nor could get any to do, if they were. And so they insist on having their children taught how to do something, perhaps several things, without ever soiling their fingers by actually doing anything. If they would, in all meekness and simplicity of heart, endeavour to educate their children to be good for something, they would be infinitely more likely to overtake the aim of their sinful and stupid ambition. The man who has been well and rightly educated to earn, and does earn, a fair living by true and solid service, is a gentleman in the only sense in which it is not both a sin and a shame to be called by that title. Any form of honest service, however plain and humble, has manliness in it, and is therefore a higher style of gentility, and a sounder basis of self-respect, than any, even the proudest, form of mere social ornamentation. The dull boy, who cannot prate science, but can drive a cart as a cart ought to be driven, or the dull girl who cannot finger a piano, but can rightly broil a beefsteak, is, in the eye of all true taste, a far more sightly and attractive object than the most learned and accomplished good-for-nothing in the world. I have seen men calling themselves doctors, who, week after week, month after month, year after year, were going about making sham calls on bogus patients, that so they might either get themselves a practice or make men believe they had one; and have thought that the poorest drudge, who honestly ate his bread, or what little he could get, in the sweat of his face, was a prince in comparison with them. An aristocratic idler or trifler or spendthrift or clothes-frame, however strong he may smell of the school and the college, of books and of lingual culture, is no better than a vulgar illiterate loafer; nor can his smart clothes and his perfumes and his lily hands and his fashionable airs shield him from the just contempt of thoughtful men and sensible women.

Now so long as people proceed upon the notion that their children's main business in this world is to shine, and not to work, and that the school has it in special charge to fit them out at all points for a self-supporting and reputable career in life, just so long they will continue to expect and demand of the school that which the school cannot give; to grumble and find fault because it fails to do what they wish; and to insist on having its methods changed till their preposterous demands are satisfied. On the other hand, the school could do its proper work much better if people would but come down, or rather come up, to a just conception of what that work is. But it must needs fail, in a greater or less degree, to do that part of education which falls within its legitimate province, while struggling and beating about in a vain endeavour to combine this with that part which fairly lies outside of its province. For, in straining to hit the impossible, we are pretty sure to miss the possible. And all experienced teachers know right well that those parents who faithfully do their own part in the education of their children are most apt to be satisfied with what the school is doing.

It is, then, desirable that children should learn to think, but it is indispensable that they should learn to work; and I believe it is possible for a large, perhaps the larger, portion of them to be so educated as to find pleasure in both. But the great question is, how to render the desirable thing and the indispensable thing mutually helpful and supplementary. For, surely, the two parts of education, the education of the mind and the education of the hand, though quite distinct in idea, and separate in act, are not, or need not be, at all antagonistic. On the contrary, the school can, and should, so do its part as to cooperate with and further that part which lies beyond its province. And it is both the office and the aim of a wise benevolence in teachers so to deal with the boys under their care as to make them, if possible, intelligent, thoughtful, sober-minded men, with hearts set and tuned to such services and such pleasures as reason and religion approve; also, to make them prudent, upright, patriotic citizens, with heads so stocked and tempered as not to be "cajoled and driven about in herds" by greedy, ambitious, unprincipled demagogues, and the political gamesters of the day. And here it is to be noted, withal, that any man who gains an honest living for himself, whether lettered or unlettered, is a good citizen in the right sense of the term; and that human slugs and do-nothings, however book-learned they may be, are not good citizens.

As for the women, let it suffice that their rights and interests in this matter are coördinate with those of the men; just that, and no more. Their main business, also, is to get an honest living. And the education that unprepares them or leaves them unprepared for this is the height of folly and of wrong. And I hope the most of them are not going to turn students or authors by profession, nor to aim at eating their bread in the sweat of the brain. For things have already come to that pass with us, that any fool can write a book: the great difficulty is in finding people who know enough and have strength enough not to attempt it.

And here let me say that the greatest institution in the world is the family; worth all others put together, and the foundation of them all. So, again, the greatest art known among men is housekeeping, which is the life of the family. For what are we poor mortals good for, in head, heart, hand, or anything else, without healthy, eupeptic stomachs? and how are we to have such stomachs without good cooking? So that I reckon housekeeping to be just the last thing that any *lady* can afford to be ignorant of. The finest accomplishment too that woman was ever beautified with. This part of woman's education, also, is to be gained at home; it cannot be gained anywhere else. As for those young ladies who are above going into the kitchen, and learning this great art by actually working at it, my advice is, that they forthwith migrate to a world where the home and the family have no place, and where babies are not to be born and nursed.

Our girls in school, then, should, first of all, be fashioned for intelligent, thoughtful, sober-minded women; with souls attempered and attuned to the honest and ennobling delectations of the fireside; their heads furnished and disposed to be prudent, skilful, dutiful wives and mothers and housekeepers; home-loving and home-staying; formed for steady loves, serene attachments, quiet virtues, and the whole flock of household pieties; all suited to the office of

> A creature not too bright or good
> For human nature's daily food.

The love of home, and the art of making home lovely, must be mainly acquired in the works and enjoyments of home; and the best thing that the school can do is to coöperate with the home to that end.

But the most important item in this account, and that which is the main subject of what I have to say, is yet to come.

We have reached a stage of civilization and general culture in which both the virtue and the happiness of people depend very much on their intellectual forming and furnishing. And as this holds true alike of both sexes, so both will be included alike in the scope of what I have in mind to speak further. Books, of one sort or another, are now, on every hand, a common resort for entertainment and pleasure, and are likely to become more and more so. Wealth has greatly accumulated; machinery has come to do a large part of our work; and all sorts of people have more or less of leisure on their hands. This leisure ought not to be spent in idleness, neither will it be. In the vacancy of their hands people's thoughts will needs be busy either for the better or for the worse: if their minds are not dressed for the abode of the Deity, they will be workshops of the Devil. And reading does in fact bear a large part in filling up such vacant time.

Now the world is getting full of devils, very potent ones too, in the shape of foolish and bad books. And I am apt to think the foolish devils in that shape even worse than the wicked: for they only begin the work of evil somewhat further off, so as to come at it the more surely; and a slow creeping infection is more dangerous than a frank assault. Nothing so bad here as that which eludes or seduces the moral sentinels of the heart. I am not exactly a believer in the old doctrine of total depravity; but I fear it must be confessed that the greater number of people take much more readily to that which is false and bad than to that which is good and true. Certainly what intoxicates and lowers stands a better chance with them than what sobers and elevates. Virtue and wisdom are an up-hill road, where they do not advance without some effort; folly and vice a down-hill path, where it requires some effort not to advance. And this is quite as true in intellectual matters as in moral. Here, to most people, delight in what is false and bad comes spontaneously; delight in what is true and good is the slow result of discipline and care, and grows by postponement of impulse to law.

I suspect it has been taken for granted much too generally, that if people know how to read they will be apt enough to make good use of that knowledge without further concern. A very great mistake! This faculty is quite as liable to abuse as any other: probably there is none other more sadly abused at this very time; none that needs to be more carefully fenced about with the safeguards of judgment and taste. Through this faculty crowds of our young people are let into the society of such things as can only degrade and corrupt, and, to a great extent, are positively drawn away from the fellowship of such as would elevate and correct. Most, probably not less than seven-eighths, of the books now read are simply a discipline of debasement; ministering fierce stimulants and provocatives to the lower propensities, and habituating the thoughts to the mud and slime of literary cesspools and slop-cooks.

I have indeed no faith in the policy or the efficacy of attempting to squelch these springs of evil by forcible sequestration, or to keep people from eating this poor devil-soup by muzzling them. If they will take to it, probably the best way is to let them have it; perhaps it is best to act somewhat on the plan of glutting them with it, in the hope that so they may outgrow it: but something might well be essayed so to fit and prepare them as that they may not take to it, and may even turn away from it with disgust when it comes to them. Surely, at all events, the education that delivers people over to such feeding is a very doubtful good.

In view of all which, it is clearly of the highest consequence, that from their early youth people should have their minds so bent and disposed as to find pleasure in such books as are adapted to purify and raise. I say *pleasure*, because we cannot rely, neither ought we, on arguments of right in this matter. Reading even good books without pleasure, and merely from a sense of duty, is of little benefit, and may even do hurt, by breeding insensibly an aversion to what is good, and by investing it with irksome associations. A genial delight in that which is good is what sets the colours of it in the mind: without this, the mind grows at odds with it. People cannot be droned or bored into virtue; and if evil were made as tedious to them as good often is, I suspect their hearts would soon be weaned from ugliness, and won to a marriage with beauty. And the pith of my argument is, that it is what people take pleasure in that really shapes and determines their characters. So experience has taught me that the characters of students in college are influenced far more by their reading than by their studies. From the books they take to you may judge at once whither their spirits are tending, and what they are inwardly made of, because here they generally go by free choice and pleasure. In brief, they study what they must; they read what they love; and their souls are and will be in the keeping of their loves. Even the breath of excellence is apt to be lost, if it be not waited on by delight; while, to love worthy objects, and in a worthy manner, is the top and crown of earthly good, ay, and of heavenly good also. Considering how clear and evident all this is, that so little is done, even in our highest seats of learning, to form the tastes and guide the reading of students, may well be matter of grief and astonishment. I have long wondered at it, and often sickened over it.

Now, to fence against the growing pestilence of foolish and bad books, I know of but one way; and that is by endeavouring systematically so to familiarise the young with the best and purest mental preparations, and so to prepossess them with the culture of that which is wholesome and good, that they may have an honest hearty relish for it. The thing is, to plant the mind full of such loves, and so to set and form the intellectual tastes and habits that the vicious and false will be spontaneously refused, and the healthy and true be freely preferred; this, too, not from any novelty in it, but for the experienced sweetness and beauty of it, and for the quiet joy that goes in company with it.

(*To be continued.*)

ADDRESS BY DR. HIGBEE.

STATE SUPERINTENDENT, AT A PENNSYLVANIA COUNTY INSTITUTE.

Fellow-Teachers: I am pleased to meet you, and bring you greetings from the Institute at York. I am more than ever impressed with the tremendous contrast between to-day and the years long past of school-going boyhood. I remember the old school-house on the sandy hill-side, turned inside out, for it was plastered on the outside, and its old blue-coated and spectacled pedagogue. What astonishment then would such a meeting of teachers as this have aroused! But you must not think that our old teachers were below what we have now, in personal attainments and culture. In the facilities and comforts of the school-room, and in number, and professional enthusiasm, the times of old were far below us; but in the midst of surrounding difficulties, the past has had teachers of incalculable worth, and such a teacher was the old pedagogue whose image you have made "to creep into the study of my imagination." It was through his culture, his broad mental grasp and childlike reverence for knowledge, that the pupils whom he had were drawn into earnest, thoughtful study.

He and many of the old teachers were men of power and varied attainments. They reached the soul. Their personal character was a power, and their intercourse with the children was soul entering into soul, cultured mind challenging mind, the lips of refined scholarship infusing life, deep answering to deep. How one of those old teachers bothered us youngsters one day in Geography! We had studied the lesson—the map of Europe—and thought we knew something about it. When we answered very glibly almost every question relating to this place and that place, he replied, "Boys, I fear you are wrongly shipped. Your recitation is good so far as memory goes, but it seems dead to me, for those places were not accidentally dropped here and there, and named, without some reason, and the memory becomes tired, and helpless too, if you cannot join the things you get with the life of humanity."

Then he began with Gibraltar, and in a short time the whole map of Europe was alive! He told us how the Saracen forces, in their endeavor to enter and conquer Western Christendom, moved along Northern Africa; and how, when reaching the narrow strait, their general sent the great warrior Tarik, lieutenant of the forces, across the narrow sea to assault the Visigoths in Spain, and how, when landing on the steep rocks of the Spanish coast, he reared the Moslem standard, and cried, "Gibel Tarik!" (Mountain of Tarik), which has worn down to the name of *Gibraltar*. This is only one example out of hundreds.

It is not by appliances, nor by methods, nor by facilities alone, but it is by the personal character, and broad scholarship, and the reverent love thereof which the *teacher* has, that success of a high order is to be reached. It is already-awakened intelligence challenging the nascent mind, awakening it into action, giving to it form and shape, and guiding it toward fulness and strength, which we require, together with all the helps and facilities which to such are instruments of power.—*Pennsylvania School Journal.*

THREE EDUCATIONAL PRINCIPLES.

The first principle we present is a negative statement of four words, but involves the discussion of the true nature of education and the exposition of a wide spread misapprehension among teachers and people which is doing much to confound ideas, and to retard educational progress. It reads in this wise—

Learning is not education.

Few men, after careful thought upon the subject, will deny the correctness of the statement; perhaps most men, without considering the subject, would deny it. At any rate, in the minds of most persons the terms learning and education are synonymous.

The truth is that learning is but the means of education. The mind is a bundle of living powers, which are truly educated only when maturely grown. A tree takes its sustenance from the earth and the air, but no man thinks of the tree as an erected accumulation of mud, water, and wind. All that the tree has comes from earth and air, save an implanted germ of life which enables it to assimilate the means of growth, until that which was dead matter appears in living forms of strength and beauty. So the mind has a living principle within itself which will, when properly trained, enable it to assimilate the dead matter of learning lying all about it, and reproduce them in forms of living strength. On the other hand, the mind, when not properly trained, may come to have largely the properties of a mere receptacle. When in this state, fact, information, learning, may be crowded into it, producing but little growth; just as by a system of unwholesome stuffing, a stomach may be loaded up with food that it can in no wise digest. It does not follow because a man is learned he is educated in the true sense. If his learning does not reappear in power gained, it is a vain thing, hardly worth the getting. An engine may be properly filled with water and coal, but will do no work without the aid of the transforming, power-producing fire. It is the teacher's duty and highest privilege to light the fire of mental life, and then to furnish its ever gaining power with instruments of work—the learning of the world. But his work goes for naught if he merely furnishes the fuel without lighting and tending the fire. Learning and education should appear in their true relations, education or the development of the germs of power in man being the end, *learning* the *means* by which the mind grows and works.

The second principle to be stated is no less important than the first. It is this—

Activity is the law of growth.

Only through its self-activity can the mind grow. This principle is almost axiomatic. If the mind were inert and still, if all the roads by which the outside world reaches and improves it were closed, if feeling, sight, hearing, smell, and taste were inactive, the mind would be as a germ in its shell, not dead, perhaps, but sleeping. It could not think or feel or will. If one of these senses alone is alive, the mind is stimulated to a partial activity, producing a partial growth. If all are awake and alert, the mind is stirred to its greatest activity and receives its most vigorous growth.

The healthy child enters the school-room with senses made quick and keen by contact with the active world about him. He enters a new region, the world of words, the world not of things but of signs of things. If the teaching be right, the mind will be moved to greater activity by the effort to reach the thing, the thought, through its symbol, the word. But if the teaching be wrong, the senses will grow less keen, the mind less active, its growth be less vigorous. *Learning* indeed may increase, but education will diminish. The word will remain but the spirit be wanting: the means will become the end, the result will be a mind with acquisition but without power, having the form of education but not the substance; from which calamity may all children be delivered.

The only other principle of education which we shall venture to give now is as follows:—

The powers of the mind have different rates of development, hence attain their greatest activity at different stages of life.

There is a time when the senses are most active—a time when memory is most active and retentive: there is a time when reason begins vigorously to assume its functions, before which it does not pay to spend much time in trying to cultivate it.

A philosophical teacher will take cognizance of these truths, fitting the matter and manner of his instruction to the needs of the mind. An unphilosophical teacher takes no note of the proper order of study and presentation, but proceeds as fancy, chance, or tradition may dictate. It may be that where peas and potatoes are put into the ground at the same time, the potatoes begin to grow as soon as the peas, but he would be counted an unwise husbandman who should neglect the peas in sight to hoe the potatoes that have hardly begun to sprout. So is the teacher unwise who neglects the senses or memory of children when most active to drill them upon the formulas of reason when reason is ungrown and almost ungrowing.—*Illinois School Journal.*

A shameful trick has been played on the French Academy of Sciences. The Königsberg student, Hermann Mi kowsky, who, with the late Professor Henry J. S. Smith, was declared to gain the great mathematical prize of 3000frs., had simply pirated Professor Smith's communication to the Royal Society in 1868, on the representation of a number as the sum of five squares. He had even copied a slight error in it. The Academy, therefore, at a secret session, annulled its original decision, and decreed that the whole prize had been gained by the distinguished English Professor, who, unfortunately, had not lived long enough to expose the hoax.—*Times.*

Examination Questions.

INTERMEDIATE EXAMINATION, JULY, 1883.

SIR WALTER SCOTT AND MARMION.

[GENERAL.]

1. Write short notes about—

(a) Sir Walter s ancestors and their traits of character.
(b) Sir Walter's homes and his public offices.
(c) His studies and his tastes.
(d) His early poetical works and the source of their inspiration.
(e) His poems of maturer years, their subject, and date of publication. His four first-class prose works, the period which they portray, and the historical personages whom they describe.
(f) His six principal second-class prose novels in a similar way.
(g) The use of Sir Walter's novels.
(h) Sir Walter's deviations from historical accuracy.
(i) His power and weakness in portraying characters.
(j) His best characters.
(k) His business speculations.
(l) His morality, as taught by his life, books, and words.

2. Give in your own words an outline of "Marmion," and a pen-and-ink portrait of the principal characters as they appear to you.

3. Give an account of the preparations for battle, a plan of the disposition of the troops on both sides, incidents of the fight, and the death of Marmion, introducing appropriate quotations occasionally.

4. Finish the quotations begun below, explaining the point of the figures and the references or corrections.

(a) And much resembled that same knight,
Subdued by you in Cotswold fight.

(b) Oh, what a tangled web.

(c) The pheasant in the falcon's claw,
He scarce will yield to please a daw.

The falcon? the pheasant? the daw?

(d) As bends the bark's mast in the gale
When rent are rigging, shrouds, and sail,
It wavered 'mid the foes.

(e) O woman! in our hours of ease,
Uncertain, coy, and hard to please,
And variable as the shade
By the light, quivering aspen made;
When pain and anguish wring the brow
A ministering angel thou!

(f) I knew
That the dark presage must be true.

Mark the accented syllable in presage; explain its meaning and what Marmion meant.

(g) I would the Fiend, to whom belongs
The vengeance due to all her wrongs,
Would spare me but a day.

Why pray to the Fiend? What wrongs?

(h) In the lost battle, borne down by the flying,
Where mingles war's rattle with groans of the dying.

When were these words used? With regard to what? How do they come to Marmion?

(i) When Rowland brave, and Olivier,
And every paladin and peer,
On Roncesvalles died.

Explain the references.

(j) Afar, the Royal standard flies,
And round it toils and bleeds and dies
Our Caledonian pride.

Figures?

(k) Their dark impenetrable wood.

Cf. Lady of Lake. Figures?

(l) They melted from the field as snow,
When streams are swoll'n and south winds blow,
Dissolves in silent dew.

Figure and application?

(m) Where shivered was fair Scotland's spear,
And broken was her shield.

(n) With thy heart commune and be still.
If ever, in temptation strong,
Thou left'st the right path for the wrong,
If every devious step, thus trod,
Still led thee further from the road;
Dread thou to speak presumptuous doom
On noble Marmion's lowly tomb;
But say, "He died a gallant knight,
With sword in hand, for England's right."

BURKE AND HIS REFLECTIONS.

1. Mention the "live" public questions of Burke's day; explain the position which he took on each, the books written or speeches delivered by him on these subjects.

2. Account for the determined opposition which Burke offered to the progress of the French Revolution, shewing how far his sentiments in the "Reflections" are inconsistent with his utterances on the subject of the American Revolution, Wilkes' expulsion, Taxation, &c.

3. Briefly notice the characteristics of Burke's literary style as they have struck you, and the character of the man as it has appeared to you in reading the "Reflections."

4. (a) Describe the "mixed system of opinion and sentiment" commended by Burke, its origin, its influence, the cause and result of its overthrow, according to his view.

(b) Name, after Burke, the "two principles of Europe and civilization." Criticise this view.

(c) To what does Burke ascribe the prosperity of Europe in his day?

(d) "All the decent drapery of life is to be rudely torn off." Explain the figure, showing what the "drapery" was, and to whom Burke imputed the design of tearing it off.

(e) What words of withering scorn does Burke apply to the "new light and reason," and to the origin of this "barbarous philosophy?"

(f) We have formerly had a king of France in that situation. Write this sentence correctly and explain the reference.

(g) What benefits does Burke ascribe to "our sullen resistance to innovation, * * the cold sluggishness of our national character?" Criticise his views on this subject.

(h) "Society is a contract." Explain and illustrate this sentiment.

(i) Give Burke's views on the place of religion in the state, and the necessity for maintaining a state church, adding the comments of history, or of dissenting "Independents," on his arguments.

(j) What are Burke s sentiments about "discoveries in morality?" How far do you consider his views correct?

(k) What does Burke mean by "prejudice?" What advantages does he ascribe to it?

(l) Criticise the statement: "It is the misfortune of this age that everything must be discussed."

(m) What does Burke regard as the goal to be aimed at in cultivating the moral sense, and why does he regard "change" as fatal to it?

(n) How should "the faults of the state" be remedied? and how did Burke exemplify this conviction in his public career?

(o) "To make us love our country, our country must be lovely." In what sense did Burke make his country lovely, and in what other sense might it be made lovely?

(p) On what separate grounds does Burke base his plea for supplying the offices of religion for the poor and for the rich?

Mr. Bright's address to the Glasgow students excited so much interest in the city, that 105,000 copies were sold of the local paper which contained a full report of the oration.—*Truth.*

The science of mind is neglected because its benefits are not immediately apparent, its attainments not capable of display.—*Mann.*

Practical Department.

THEORY AND PRACTICE IN DISCIPLINE.

How many teachers are there, we wonder, whose theory of discipline and their practice harmonize? Are you one of the few consistent ones, reader? We have most of us read of the Hoosier schoolmaster who said, "*Moral suasion* is my theory, but *licking* is my practice." With many teachers that we know nearly as grave an inconsistency prevails. For their theory is the gentlest of gentle persuasiveness, while their practice is often pettishness, sharp reproof, and impatient expostulation. Alas, for the weakness of human nature! We can appreciate, value, follow the best way in theory, but in practice—it is very difficult. Consistency is a jewel, said the old poet. So it is, and a rare one. Few persons are there, even among the best, whose theories of action and their practice walk through life hand-in-hand, like the pattern Darby and Joan, with never a clash or a quarrel. Not that all are conscious hypocrites. But theory is so easily made perfect, while it is difficult to make practice even approximate perfection.

Still, while admitting the wide gap which the weakness of human nature leaves between theory and practice, we would, recurring to the special instance concerning which our Hoosier friend made his confession, exhort teachers to endeavor to make narrow this gap in their disciplinary work. If you believe—and surely observation of human nature cannot fail to make you believe—that by means of gentleness, patience, and loving-kindness, you can influence your pupils far more effectually, can do much more toward securing perfect discipline, then it is a very unfortunate inconsistency that renders you impatient and fretful. Even though you do not render it glaring by talking very much concerning your excellent disciplinary theories, your weakness in practice will be noted by others, and, so far as perceived, will effectually counteract your influence for good. Your pupils will learn that you "say and do not," and will despise you, set at naught your wishes, and become far more difficult than before to manage. But worst of all is the direct evil influence which such inconsistency has on your own character. You do not know how it harms you; you do not perceive how through it your standards of truth are lowering; how your power to justly estimate your own failings is leaving you; how you are fast becoming the real, rather than the conscious hypocrite; but the harm is working, nevertheless. Nor do you perceive how with each yielding to impatient impulse your power of self-control is lessening, and you are becoming the weak, captious, fretful teacher whose presence will demoralize in half a day the most excellently disciplined school. In a very short time your disciplinary power will be utterly lost, and the melancholy record of failure stands against your school work.

Disciplining a school-room is a task not alike difficult to all. To some who have by nature or acquirement a clear knowledge of child nature, and who know just how to take hold of a child so as to influence his mind and action, the work of governing a school well is very easy. To others who are unfamiliar with children, and who must learn each child's peculiarities before they know how to deal with him, who know not how to wield influence except through direct individual knowledge—the task is a very hard one. There is but one way to make it easy, and this is by cultivating self-discipline. First, to govern one's self well, and then the task of governing others becomes easy.

Above all things, never make a pretence of stern discipline that you cannot enforce. Attempt no disciplinary measures that you do not believe in, if possible, but especially attempt none that you cannot fully carry out. Rather neglect certain details, be lax in unimportant matters, than start on a plan so perfect that neither strength of mind nor body will hold out while you are putting it in practice. If you are convinced that you can govern solely by persuasiveness, try the experiment, but don't say too much about it until you have tried—and succeeded. Throw away the rod if you can, but do not tell the children you have done so until you have proved your power to control your school, not only without its presence, but without its shadow in the background. We ourselves are not in favor of the rod in use, but we think that, as children are usually brought up, its efficacy in the background cannot be slighted by the prudent teacher. Children are very much like grown people, and if they know that there is a punishment somewhere which cannot be escaped in instances of gross transgression there is no doubt that they will be more likely to avoid the serious offence.

Never threaten or scold. Never say, "John, if you don't stop that I shall punish you severely." Or, having been so unwise and hasty as to declare an intention to punish—do so. Your failure to carry out your threat will convince the children that you are infirm of purpose and untruthful, and they know by instinct that weakness or falsity can be imposed upon by the daring or disorderly with impunity. Scolding and fretting and impatience are also indications of weakness, and the child who is not tempted by them to trespass on rules afresh is a very exceptional child indeed.

The general rules of discipline may be varied somewhat for the different classes of children found in different localities, but the qualities they demand in the teacher are in the main always the same. Firmness is needed, also kindness, and absolute self-control. "Let your yea be yea, and your nay, nay." Mean what you say, and say what you mean. Seek for a wise and temperate theory, and follow it up with a sensible consistent practice, and the probabilities are that your difficulties in disciplinary work need no longer imperil your happy success.—*Present Age.*

PENMANSHIP.

From many quarters comes the complaint that sufficient attention is not given to some of the elementary studies in our schools. The high school inspectors report that good writing and logical order are wanting on the answer papers of entrants to high schools. The county boards of examiners frequently refer to the inability of candidates for teachers' certificates to put answers on paper in a manner becoming those capable of teaching school. Public school inspectors are noticing deficiencies in the writing of the schools which they examine. Examiners who mark the papers of intermediate candidates say the writing and methods of solution are very unpromising. Coming from so many independent sources, it is reasonable to admit there is room for improvement, at least, in writing and methods of answering. We are accustomed to think our school system so excellent, that anything said to the contrary is regarded with distrust, unless it comes from authorities so competent, impartial, and varied, as to be above suspicion. Few will urge that the testimony of those to whom reference is made does not fairly establish the charge: it then becomes an imperative duty to seek the cause, and remove it as rapidly as circumstances permit.

Most children can be made legible and somewhat elegant writers, provided they are under the instruction of skilful teachers. Unless the teacher writes well, it need scarcely be expected that model head-lines, however worthy they may be, will produce the desired effect. Besides, the junior classes, long before copy books are placed in their hands, are having models of letters fixed in their

minds from the blackboard exercises of the teacher. If these are unworthy of imitation, it takes more time to efface the confirmed impression, than to make a correct one if none were fixed by the inexorable force of habit. Precisely here is where the trouble begins, and it is marvellous how very bad the blackboard writing of teachers throughout Ontario has become. Could we place samples of it on exhibition, they would rebuke much of the boasting we hear about the training of teachers. "What is worth doing is worth doing well," answers well enough the objections made to giving writing more prominence at the examinations for teachers' certificates. It cannot be too strongly impressed that neatness and excellence should be the aim of every instructor. A dinner prepared with the same care copy books are written, or teachers' work for pupils put on the board, would—to use a vulgar term—be a sorry mess. While thus placing the blame on the teacher, we admit he is led to believe by his examinations that writing is of little account. Further, we may palliate the charge by saying the high schools give little heed to writing—in fact, many pupils leave the high schools worse writers than when they entered them. The county model schools have not time, were they able and willing, to make good writers. The normal schools do not attempt in a skilful and methodical manner to send out teachers, in this department, creditable to them and the province. Thus far, we have not heard of the examiners asking a student to give a lesson in writing during the final examination. Strange to say, chemistry, a subject not taught in one school out of a hundred, is exalted to almost, if not, a "plucking" subject, while writing, which is supposed to be taught in every school, seems unnoticed. The teachers would be exceptions, were they to resist such influences and become examples worthy of imitation, when by a long course of training they were led to infer writing was of little value, and almost beneath the notice of a person claiming mental power.

To find fault is unpleasant, though necessary in the interests of the profession and the schools. Besides finding fault, we think the means of removing it are apparent, and, from what has been said, must have suggested themselves to the reader. We must have teachers trained to believe writing is not an unimportant subject, but, on the other hand, of great value in the concerns of life, and, certainly, a leading one in the cultivation of the idea of beauty and grace in form. They should not only believe, but know, that neat and logical answers indicate the measure of the culture their pupils are receiving; if good, it will be available in work of any other kind, whether mental or physical. To this end, all blackboard exercises should, in every sense of the word, be models. For the teacher to be able to do and not to do is fatal to the children's progress; hence, he who can write well and does not do it, inflicts a lasting injury on the junior classes. To secure teachers, let writing be placed on an equality with arithmetic for examinational purposes, then will it receive attention in all the schools. In fact, it is doubtful if writing should not be made a test at the threshold of the teaching profession, for we are of the opinion few who resolutely apply themselves for a few months would fail in attaining success.

There should also be some standard adopted, so that instruction might be symmetrical in all the schools. What is more perplexing to a child than with every change of teacher a change in the formation of letters! Towards this standard or model all teachers could direct their efforts; then, as in other subjects, children would be at home with any teacher in the province. Of course, the originality bug-a-boo will meet us in this advocacy, but it applies with as much effect to reading, singing, drill, and other subjects, as to writing. The advantages of all teachers pursuing the same method are so obvious that they need not be seriously discussed. The supposition is common that placing a good head-line before the pupil and having him practise copying it will in time make a good writer. Experience shows the contrary to be nearer the truth. The head-line seems far beyond the pupil's reach, especially when the teacher's writing is much inferior to it. As for practice, it frequently occurs that pupils get worse instead of better. There must be effort or improvement will not follow. The last line of the copy being generally worse than the first teaches the important lesson that practice will as likely make a bad writer as a good one. We have known schools in which every error was detected and discussed with board illustrations consequently only a few words were written at one lesson yet these schools were noted for good writing. Again; we urge that teachers should give more thought to this subject, and that in the high, model, and normal schools special stress should be laid on writing.—*J. S. Carson, Inspector of Schools, Middlesex.*

GLEANINGS FROM ADOLF DIESTERWEG'S WRITINGS.

No book can take the place of the teacher's spirit; therefore all writers on education require of the teacher that he use their books with discernment, and that he make such judicious modifications as the peculiar requirements of his school and his pupils demand. In order to fit the teacher better for this important duty, I demand a careful preparation for each lesson, a close attention during the hours of instruction, and the registering of the experience so gained during the lesson in a book kept for this purpose. In the pursuit of such a course the teacher will obtain acuteness of intellect which will enable him to dispose of all text-books or to write his own adapted to his designs. That the teacher may be able to follow the lesson when given to the class with eager attention, he must not avail himself of a text-book *during the hours of instruction.* The teacher shall not teach from the book, but free from his heart without mechanical aid. The proper text-book for the pupil is the thinking-spirit of the teacher, who, by his intimate knowledge of the subject taught, will give to each individual pupil suitable mind-food—milk to one, and a more solid nourishment to another. To use a simile, the teacher must understand the *culinary science.* The material of which the food is compounded is everywhere the same, and is given to the teacher. But its proper composition, according to individual appetites and powers of digestion, is the teacher's office. No other being can accomplish this for him. A good manual will give him the necessary indigitations, but these are, at the best, adaptable to ordinary circumstances only as they everywhere prevail; they cannot take the place of one's own meditations, much less do they make the latter superfluous.

It denotes a slavish dependence of the teacher when he must have recourse to books during the hours of instruction. He cannot bestow his full attention upon the pupils, and a free and happy development of the child cannot be expected; no, the mind of the pupil is pressed into the narrow compass of a strait-jacket when the teacher confines himself to the limits of the book. Hence away with books from the hands of the teacher whenever this can be done, and away with the teacher who cannot liberate himself from this habit.

Teachers of the high schools, imitate the primary teachers! Emancipate yourselves from books! Instead of looking into the book, look in the pupils' faces and observe their doinge. It is sometimes hardly to be believed what mischievousness pupils perform under the very eyes of the teacher during the hours of instruction. —*New England Journal of Education.*

COLOR-LESSONS.

Teacher.—You may all think of what we talked about in our last lesson.

Ralph.—We talked about red in our last lesson.

T.—You may close your eyes. Now you may look. Can any one see the word *red* on the board?

[On the board is a list of words, among them *red.*]

Eva.—I can see it. It is the word written with red chalk.

T.—Can any one see it written with white chalk?

Edwin.—I see it written five times with white chalk.

T.—What did I ask you to do for me in our last lessons?

Walter.—You asked us to bring something to you that was red, "and tell you of things we had seen which were red."

T.—What did you bring, Ralph?

Ralph.—I brought a piece of red cloth.

Eva.—This is a red feather.

Edwin.—I found a leaf that had red in it.

Carrie.—This is a red rose.

Frank.—I wore some red stockings to-day.

T.—Who can tell me some things they saw which were red?

Mattie.—My mamma's table-cloth is red.

Carrie.—There is red in our carpet at home.

[Let each one tell what they have observed.]

T.—I am very glad you all thought to do as I asked you. Can anyone tell me what color this knot of worsted is?

Willie.—That knot of worsted is blue.

T.—You may all come and take a piece of blue paper from this box.

[I have a box containing slips of colored paper in different forms and sizes.]

T.—Jennie, what have you?

Jennie.—I have a blue paper square.

Willie.—I have a blue paper triangle.

Eva.—I have a blue paper oblong.

Walter.—I have a blue paper square.

T.—You may all look at Walter's paper. How many think it is a blue paper square?

Jennie.—It is not blue, but green. (A mistake frequently made.)

T.—How many can see anything in the room that is blue?

Gussie.—Nellie has a blue hair-ribbon.

Eva.—Walter has a blue marble.

Sarah. (*Looking out of the window.*)—The sky is blue.

T.—I am glad you noticed that. You may all go to the window and look at the sky. What is its color?

Class.—Blue.

T.—What is blue?

Class.—The sky is blue.

Fred.—I have seen blue water.

T.—How many have seen blue water?

Eva.—I saw some blue water when I was on the steamboat last summer.

T.—Was it the same kind of blue as the sky?

Eva.—No ma'am; it was not as light a blue as the sky.

T.—Ralph may take the brush and paint something on the plate. Class, what did he paint?

Class.—He painted a red square.

[Allow several of the children to paint on the plate.]

T.—What two colors have we talked about

Class.—We have talked about red and blue.

T.—Say something about blue.

Charlie.—I think blue is a pretty color.

Fred.—I like red better than blue.

Frank.—My eyes are blue.

Eva. (*Looking at the teacher.*)—Your dress is blue.

T.—Who can say something about red?

Grace.—My stockings are red.

T.—All look at the board. What do you think I have written?

Class.—You have written the word *blue.*

T.—What kind of chalk did I use?

Class.—You wrote it with blue chalk.

T.—You may close your eyes. Now look. Who can come and find the word *blue* for me?

[I have written the word *blue* with both blue and white chalk, and have placed it in columns of other words and in sentences.]

T.—You may all write the word *blue* five times on your slates.

[Also have them write the word *red.*]

T.—Class may sound the word *red,* and then spell it.

[Also the word *blue* in the same way.]

T.—Now we are going to talk about another pretty color. Can any one tell me what it is? (Holding up a knot of yellow worsted.)

Charlie.—It is almost the same color as a lemon.

T.—Does it look just the color of a lemon?

Class.—It is a little darker than the lemon.

T.—What color is it, Eva?

Eva.—It is yellow.

T.—What is yellow?

Class.—The worsted is yellow.

T.—I am going to write the name of this color on the board. What word did I write, Georgie?

Georgie.—You wrote the word *yellow.*

T.—What colored chalk did I write it with?

Class.—You wrote it with yellow chalk.

T.—What did I do then?

Frank.—You wrote the word yellow with red chalk.

T.—Who can tell me what I have done now?

Willie.—You wrote the word yellow with blue chalk.

T.—Tell me what I do now.

Mamie.—You wrote the word yellow with white chalk.

T.—Yes, children, I am sure you know the word yellow, no matter what colored chalk I write it with. Now I am going to write the word yellow some other way. [I should now print the word.] Eva may sound it. Well, what is the word?

Eva.—The word is yellow.

T.—Class, what is the word?

Class.—It is yellow.

T.—What is the color of this paper, Georgie?

Georgie.—The paper is yellow.

T.—What is the color of this square?

Class.—The square is yellow.

T.—Ralph may tell me the color of this piece of cloth.

Ralph.—The cloth is yellow.

T.—Now I am going to see who has the brightest eyes, and can tell me something they see in the room that is yellow. Mattie sees something first.

Mattie.—The chalk is yellow.

Eva.—The orange on the desk is yellow.

T.—You may all look. I will put the yellow worsted beside the orange. Is it the same color as the orange, class?

Class.—No ma'am; it is not like the orange.

T.—Then do you think the orange is yellow?

Class.—No ma'am.

T.—No; the orange is not yellow. We will talk about the color of the orange in our next lesson.

Willie.—The paint in the bottle is yellow.

T.—I will put some of the paint in the saucer, and put a little

water with it. Eva may come and paint this time. Willie may paint. Who can tell me the color of this cube?

Class.—The cube is yellow.

T.—All who can tell me the three colors we have talked about may come and stand beside me.

Ralph.—We have talked about red, blue, and yellow.

Class.—We have talked about red, yellow, and blue.

T.—You may all take your seats, and write the word yellow ten times and number each one, and see who will write it best and make the best figures.—"*Ida,*" *in Primary Teacher.*

SCHOOL CHILDREN AND THEIR EYESIGHT.

An interesting lecture (writes the Geneva correspondent of the *Times*) on the "Effect of Reading and Writing on the Eyesight of Young Children," was given a short time ago, at Berne, by Professor Pflüger, a great authority on the subject. The lecturer first called attention to the portentous fact that more than one-half of 45,000 children lately examined in Germany were found to be suffering from defective vision. In some schools the proportion of the short-sighted was as high as 70 and 80 per cent. In the Heidelberg Gymnasium it was 100 per cent.—every lad in the school had bad eyesight. According to Professor Pflüger, this lamentable state of things arises from several causes—from insufficiently lighted schoolrooms, bad print and bad paper, the method of writing in vogue, and ill-contrived desks and forms. An evil equally great, if not greater than all these combined, and resulting in something more than defective vision, is the burdening of children with too many lessons, and the consequent restriction of their hours of play. In order to solve the vexed question of the influence of German caligraphy on the eyes of those who adopt it, the Government of Würtemberg, some time ago, appointed a commission, consisting of three schoolmasters and three physicians, to investigate the matter, and make a report. In the opinion of these gentlemen, the mere writing is least among the causes which unfavourably affect children's eyesight. They found that, while comparatively few children write with their backs bent towards the left, fully 80 per cent. give their backs in writing a right inclination. The latter position tends to produce a permanent elevation of the right shoulder, and, if persisted in, curvature of the spine. In the schools they visited the commissioners actually found 20 per cent. of the boys. and from 30 to 40 per cent. of the girls, suffering from more or less pronounced curvature due to this cause. The difference between the two sexes is probably due to the fact that lads, besides being more energetic in play, are more rationally clad than girl scholars. As to position in writing, the distance between the desk and the eyes ought to be about 25 centimetres; yet it was rarely, indeed, that the commissioners met with any children who could keep their eyes at this the normal distance from the paper. Many of them find it necessary to bring their faces within seven centimetres (2.75 inches) of their copy-books. The general conclusion of the commissioners, as of Professor Pflüger, is that, of all the evils enumerated, the worst, and those most in need of reform, are the seats and desks at present in use. The professor further remarked that only 10 per cent. of the children examined were naturally short-sighted, and that, as among wild races defective vision is almost entirely unknown, the question is peculiar to modern civilization and the existing system of teaching. In conclusion Herr Pflüger expressed the fear that he was like one crying in the wilderness, the prevailing tendency being to lay on the children of this generation still heavier burdens, and force their minds to the lasting injury of their bodies.—*School Guardian.*

READING.—SCRIPT.*

The written word to the little child has no element of attraction. It is, on the other hand, a repelling object. I have tried to show how the difficulties of learning the first words may be overcome by the stimulus of the idea in acts of association. It is a matter of great importance to steadily overcome the repulsion occasioned by the written word. This repulsion will grow less and less, and the acts of association will be made easier, by continued familiarity with the new forms, if the interest and the appetite of the child for words is sedulously cultivated, through the pleasure that the objects and pictures excite. All words are made, as you know, of only twenty-six different forms. The less the mental action it requires to see these forms, the easier will be the acts of association. It is important to impress these forms upon the mind in an easy, natural, semi-unconscious way. As I have shown, the best possible way to impress the word forms upon the mind is to write them—to make them. We hear the objection very often that a child does not learn the letters by the new method. He does not learn their names, but he learns *them* by continually making them. What is the best proof that any object is clearly in the mind? A word description is weak beside the representation of the object in drawing. This brings us to the question so often mooted, whether we should use print at the beginning, or print and script, or script alone. I will try and present the arguments in favor of using script alone, not denying, however, that script and print may be used at the same time with good effect. When two or more ways of teaching are presented, all of which may be defended by good reason, reasons that do not directly violate a principle, the question of choice then becomes a question of economy. If we begin with print, it certainly fixes the printed forms in the mind by reproducing them on the slates, so that if the teacher uses print alone at the beginning, she should train the children to make the printed forms. But, making the printed forms is not a means of expression that a child ever uses after the first few months, or the first year. Writing is the second great means of language expression. It should be put into the power of the child just as soon as possible, in order that he may express his thoughts as freely with the pencil as with the tongue. This fact needs no argument. Written expression is as great a help to mental development as oral expression; and, indeed, in many respects, it stands higher. Written expression is silent, the child must give his own thought, in his own way; thus developing individuality. The greatest difficulty in all teaching in our graded schools is the sinking of the individual in the mass. In written expression we find a means of reaching individuality through the mass. Why not, then, begin at the beginning with this mode of expression that the child must use all his life, and every day of his life?

Why not teach printing and script together? Because it violates the rule of perfect simplicity. Train the child to use one set of forms, made in one way, and one alone. In my experience, extending over eleven years of supervision of primary schools, I have never known the failure of a single class to change from script to print, easily and readily, in one or two days. What, then, is the use of print at first? What logical reason can be given for its use, if the step from script to print is so very simple? The writing of the words by the child on blackboard, slates, and paper, furnishes a vast amount of very interesting and profitably busy work. In writing the first word the child begins spelling in the only true way. In writing the first sentence the child makes the capitals and punctuation marks, and if he is never allowed to make a form incorrectly, it will be almost impossible for him ever to

* From Col. Parker's "Talks on Teaching." *Kellogg & Co., New York; W. J. Gage and Company, Toronto.* Price, $1.00.

write a sentence incorrectly—that is beginning it with a small letter, or not using the proper punctuation at the end. In writing the words, the child follows exactly the method of learning the spoken language. Spelling is the precise corelative of pronunciation. The child hears the spoken word and strives to reproduce it by his voice. The child sees the written word, and reproduces it with his pencil. He gets the thought by means of the written word, and gives it back just as he gets it—he is talking with the pencil. He is ready to tell you any time, orally, what he is writing.

In the first three years' work, talking with the pencil may be used as a greater means of learning to read than all the books of supplementary reading. When the child writes the first word, the unity of all language teaching is begun. Getting thought and giving thought by spoken and written word should be united at the start, and grow through all future development as from one root.

What advantages has the blackboard and crayon over the chart and printed book in elementary reading? First, the words are created by the hand of the teacher before the eyes of the children, as the spoken word is created. Second, the word is written alone in large letters, separated from all other objects of interest except the object it names. How different the confused mass of black specks upon the printed page. Third, the attention of the little group is thus directed to one object in a very simple manner. Fourth, words are learned by *repeated* acts of association. The great fault with charts and primers is that they do not repeat words times enough for the child to learn them. On the blackboard, on the other hand, these repetitions can be easily made. It is of great importance that the first one hundred words should be learned thoroughly. Superficial work is always bad work. From the first, then, the child should write every word he learns from the blackboard, and just as soon as he is able to write sentences the word should invariably be written in sentences.

The child should be trained to read from his slate all that he writes. The reason why the change is made so easily from script to print used to puzzle me. I only knew that it could be done, but could not tell the reason why. Script and print are very nearly allied in form. The first print was a crude reproduction of old manuscript. Both, indeed, have changed since the art of printing was discovered, but the resemblance remains. The child, as you know, has a wonderful power of seeing resemblances. Like comes to like in his mind because his mental pictures are not filled out with that which produces the differences. This, to my mind, is sufficient reason for the surprising ease with which the child changes from script to print.

Says the Boston *Transcript:* "The doubt is rising whether our beautiful new literature for children is the best for them. At all events it is to be hoped that the new life of Miss Edgeworth will bring back her stories for children. Grandmothers will surely recommend them, and the present generation will sympathize when it knows them." Some of the rest of us who are called upon to think, not only what is best for our own, but for hundreds of families, have been entertaining the same doubt. The general reading introduced into schools has had the effect of animating boys and girls with an eager desire for books at home. So far, so good. That was precisely its object. Nobody could be too thankful at seeing pure books—Mrs. Whitney's, Miss Alcott's, a dozen others, in the hands of youth who had previously been only familiar with the *Police Item, The Fiend of the Hearthstone,* and so forth, almost *ad infinitum.* But the poorer class of children, provided with no suitable reading by parents, and having access to the public libraries, is tempted to deluge and saturate its mind with story upon story. Suppose the stories *are* good in themselves (and if a pupil be encouraged to report all his reading to the teacher, he will, in a spirit of emulation, endeavor to read only those he can mention), there may be too many of them. And as for the sons and daughters of wealthy and educated parents, they are being surfeited with magazines. It is all of the very best, to be sure, but that does not save it from the charge of being a case of over-feeding. What is to be done? That is more than the teacher can say, without the parent's help.

Some one prophesies that the next two or three generations of children will be crammed with facts to an extent that would astonish even the teacher of half a century ago. "For," says he, "according to the law of reaction, after this wave of oral teaching we shall settle down to the use of books again. And as the fervor for oral instruction has been mighty, so shall the rebound of opinion to the opposite pole be correspondingly forcible. Doubtless we shall be found shutting up a child in a closet, with a supply of bread and a case of books. When he has learned the contents of the volumes, word for word, then shall he be promoted to another closet and more books. In an allotted period of years he will have completed his education by his unaided efforts. In those days everybody will be a self-made man or woman. Never smile at the vision, instructors of youth! The day is surely coming when you shall be required to talk less, and your pupils made to study more. But what becomes of the children whose minds we have spoiled, hopelessly or not, by our varying systems of teaching? The question is as pertinent and unanswerable as is the familiar one in regard to the final destination of lost pins."

A recent publication contains the following quotation from Alexandre Dumas: "There is no such thing as a stupid child. A child may have a more or less prompt intelligence; it may develop special aptitudes or antipathies; but you will never hear it say a stupid thing as long as you have not deceived it, as long as you have not told it a lie." Now that is one of the utterances which, like epigrams, sound exceedingly well, but which are not unmitigated truth. Children are quite as frequently stupid as grown people, and with no apparent cause beyond that of intuitive dulness. Doubtless the cause is to be found somewhere for the inability of any machine to work; but in the case of human beings you are more likely to find it to be prenatal—nay, even lying a century behind the child—than some effect of his own immediate circumstances.

Did you ever ask your girls how much they knew about bread-making? Unfortunately cooking cannot be taught in public schools, as sewing is; but a hint can go from the teacher to the mother which may or may not bring forth fruit. However, the chance of results makes the effort worth while. Suggest that each child watch her mother while she is bread-making, and that she ask every possible question about the process. Say, very emphatically, that she will be a fortunate girl who is allowed to try the operation with her own hands, and have a composition written on what each one has seen or done. Some of you who have not had much intercourse with the poorer class of parents will be surprised to find that a mother who works hard over sewing and housework seven days in the week is likely to have a daughter incapable of tying a knot in her thread, or sweeping a room carefully. Send out filaments in every direction. Reach the parents and force them, by the very power of your interest in their children, to help you in directions where you alone can accomplish nothing.

How shall we best teach reading in grammar schools? In the first place, beware of the school reader. Don't rely on it. It is well to bring in pieces from the outside, selections that are largely

objective and full of live incidents. The same order of nature is observed in the higher schools as in the primary schools. We have first perception, then memory, imagination, reason, and lastly generalization. The first thing to do, then, is to interest the children in the piece to be read. To do this, be enthusiastic yourself. Apply to it these two laws: 1. Give most value to what is of most value; 2. Give variety in expression. They cover everything on the subject to be found in the books on elocution, as they now exist.—*Prof. Brown.*

"A teacher is known by her questions, whether in the schoolroom surrounded by pupils, who, in harmony with the teacher's method of working, are keen and active or spiritless and yawning, or in the more sedate and thoughtful position of examiner. The late semi-annual spasms, called examinations, bring evidences of the fitness or unfitness of men and women to be questioners or teachers. An old professor was in the habit of saying, that the amount of real knowledge possessed by a teacher could be seen by looking at his questions. If he was really learned, you would have no doubt what was wanted by his questions. They were comprehensive, real, to the point. . . . . Questioning anywhere is teaching. It may test, but it is teaching at the same time. Right questioning is an inspiration of genius; it is an art which few possess. To educe, to bring out many words of answer by few words of questioning, is the key to the whole science of teaching. So true is this, that a teacher might sign himself truthfully and laconically Roger Ascham. The interrogation point would convey the same information that the M.D. or D.D. does in other professions."—*The Teacher.*

Train a child to know when he does not know a word. He will then never spell wrong. All spelling can be taught in composition. Children can be made to love to talk with the pencil. A child knows a unit of thought by expressing it. Do an act and have the children write it, or let them tell it orally. All of grammar can be taught in a beautiful way by action. Put no false syntax on the board: the wrong form is as likely to remain in the child's mind as the right. Be right from the start. Pictures can be utilized in the writing of compositions. The little ones may write one, two, or three sentences only about a picture, but by the second year the child can write a story about it. In the third year it can write a page of composition entirely correct. Is that not a foundation for grammar? Another way of teaching composition is to tell the child stories, and have it reproduce them in its own words. In object teaching there is as much nonsense as in anything else. The fundamental mistake is that teachers attempt the impossible. They fail to understand that the child cannot see what they can see, and consequently talk above the heads of their pupils.—*Col. Parker.*

Methods, simply as methods, are hard iron fetters which admit of no modification, and bind teacher and pupil alike in a miserable servitude to routine. Methods which are the outgrowth of principles, accepted and understood, are pliant, easily adapted to circumstances, and lend themselves readily to those individualities which ought to exist in every school. The teacher who blindly follows a method has no field for enthusiasm, no opportunity for growth. The study of principles shows continually new worlds to conquer; and supposing, as is undoubtedly true, that our philosophy is not perfect—that some or all of our principles will be modified by the progress of human thought and experience. That is true of all philosophy worthy the name, and those who are the most careful students of old principles are always the ones to discover the new, and lead in the path of progress. We need to study the principles which underlie our methods, and such study of them as the subject and the circumstances alike demand cannot be made at institutes or associations, though even hastily written papers like this may furnish suggestions. Every intelligent teacher ought to give some appreciable and definite time to the investigation of the principles of education—to reading and thinking about the *why* of his work; our thoughts are too exclusively occupied with the *how*. In these days we have no right to work empirically. When we may be artists, it is wrong to be mechanics.—*Miss Ellen Hyde, Principal Nor. Sch. Framingham, Mass., in Primary Teacher.*

"What can be done to win public sentiment in favor of your method?" has been asked. I have no method. You have heard of the Quincy method. Its platform is plain; an honest and persistent investigation of the work of teaching, and a courageous application of the truth of what is found. The object, word, sentence, or phonic "methods" are not methods in themselves. They are the devices to be used in the proper time to form one great and true method. The teacher must study his subject to get back to the principles that underlie it. Imitation will not do. The energy that comes from the thought is the thing. In teaching reading, simply do what the child has always done—learn the word from the object. The beginning is with the object. The child sees the hat, and tells what it is. Reading is identical with talking. We can teach the child to talk easily, but we don't unless by a painful method. Never let the child give a thought till he gets it. Never let the child drag in his speech. If the thought is properly developed he will express that, and need say nothing else. Thought controls expression. The thought must get into the mind first. Oral expression is not the great thing. Reading is the association of the word with the thought. By oral reading the teacher sees whether the child has the thought. But the value of this may be lost by the child imitating the teacher, and the purpose of reading is not getting the *word* right, but the *thought.*—*Col. F. W. Parker.*

A GALAXY OF OPINIONS ON OPENING SCHOOL.

The most satisfactory opening is the simplest.—H. H. Ballard.

I read short appropriate selections, and offer a short prayer while the pupils stand.—J. C. Gregg.

I have no formal method of opening school, but proceed to work as soon as pupils are seated.—F. A. Fogg.

I open school as follows: 1. Singing. 2. Short Scripture lesson. 3. The Lord's Prayer in concert. 4. Singing. 5. Roll-call.—A. F. Jenks.

We open school by reading a chapter in the Bible, and on Monday mornings vary by having each pupil recite a "Scriptural quotation."—J. B. Echling.

We have no regular stereotyped method of opening school. My belief is that more depends upon the manner than the matter of the exercises.—C. S. Locke.

We have roll-call, Scripture-reading, (pupils alternating with teacher,) chanting Lord's Prayer, and singing some piece of glee music.—A. K. Carmichael.

Immediately after roll-call, I have various pupils (six or eight) rise and repeat a proverb or moral maxim previously prepared and made known to me, so that no two have the same.—Anonymous.

Various subjects may be taken up, such as honor, truthfulness, neatness, promptness, accuracy, economy, pleasantness, dignity, politeness, cheerfulness, forbearance, etc., upon any one of which the teacher may make some remarks that are to the point. Illustrations and examples direct from the daily life of the school are productive of most good.—Anonymous.

Every school should have an appropriate opening exercise of a moral or religious tendency. The teaching were better indirect. All preaching should be avoided; it is distasteful to children, and defeats the end it is meant to secure. It is a grave mistake, however, to not impress, indirectly, the leading truths of morality and religion. These elements have a place in every human soul, and are legitimate material for training.—*Minnesota Journal of Education.*

Notes and News.

ONTARIO.

Miss Lottie M. Capron, a pupil of the Paris High School, has composed a new piece of music, entitled "The Ousely Waltzes."

Mr. James Harrison, who teaches in Downie, gives up teaching at the end of the present term. Mr. Harrison has been long in the teaching profession, having taught in Perth, Middlesex, and Oxford, and has always won the esteem of both parents and scholars and all others with whom he has come in contact. With the withdrawal of Mr. Harrison the profession will lose one who takes a deep interest in scholars both morally and intellectually.—*St. Mary's Argus.*

The Chairman of the Ingersoll Board of Education, owing to the great number of children from seven to twelve years who do not attend school, has determined unless those children are immediately sent to school to have the law respecting compulsory education rigidly enforced.—*St. Mary's Argus.*

Mr. N. S. Dunlop, White Lake, read an admirable essay on "Spelling," at the teachers' association at Arnprior and Almonte. The paper was written in the reporting style of phonography, and read with ease.

The schools at Port Rowan have a handsome and commodious building. The high school, which is most ably and energetically conducted by Mr. W. W. Rutherford, B.A., assisted by Mr. R. Alexander, has won honorable distinction for itself and attracts pupils from considerable distances. Last year eighteen of its scholars passed the intermediate examination. In the elementary departments, under Misses Abbott and Ryan, first-rate work is being done. Few places of the size have such excellent educational advantages as Port Rowan.

There is a fine school at St. Williams, under the efficient head mastership of Mr. John L. Buck, Miss Pecumer ably assisting him in the junior department. Besides a fair proportion of the scholars taking the entrance examination there is a class preparing to take intermediate papers.

Vittoria has a flourishing Mechanics' Institute with a large and thoroughly appreciated library. It has also a handsome school building in which good work is being done. Mr. A. E. Hooper is a most efficient head master, and he is well supported by Miss Curtis.

The educational wants of Welland are well supplied. The high school, under the principalship of Mr. Dunn, assisted by Mr. Bridgeman, (both teachers of many years' standing and well known ability) attracts scholars from some distance out of the town, and continues to uphold the excellent reputation it has long borne. The model school is in a highly efficient state with Mr. Grant as head master, ably assisted by Mrs. McGlashan, Byfield, and Rowan.

Mr. Lornman entered on the head mastership of the Port Robinson public school at the beginning of the year. He is young, but earnest and energetic, and cannot fail to make his mark in the profession, as he has already done in his present sphere.

We regret to announce the death of Mr. E. H. Robertson, principal of Thorold west side school. Mr. Cornforth, who was formerly mathematical master in the high school, has been invited by the school board to succeed him, and has temporarily accepted the invitation.

A handsome and commodious building has been recently erected for the separate school at Thorold.

Miss Dale has recently entered on duties as mistress of the junior department of the Thorold public school. The school is in a flourishing condition under the head mastership of Mr. Manson, who has had charge since last Christmas.

The public school at Port Colborne has by means of its annual entertainment managed to supply itself with a set of good wall maps and several other conveniences. Mr. McKay has for some time conducted the school with marked success.

The school at Victoria is doing well under the management of Mr. Burgess, who entered on duties as head master only this year.

The public school at Drummondville is one of the handsomest and most convenient in the province. It is a fine brick structure standing in a large piece of ground. In front of the school are well-kept shrubs and flower beds. There are play grounds beneath the school rooms for wet and cold weather. The rooms are bright and airy, and the whole school, which is under the most efficient management of Mr. Morris, has a flourishing appearance.

The public school at Merritton has had a loss in the person of Miss Booth, who, we understand, has left to get married. Miss Bates is her successor. The school, which includes three buildings, is doing well under the head mastership of Mr. J. H. Crow, assisted by Misses Mills, Patterson, and Bates.

We learn that Mr. Kearney, the highly respected master of the separate school at Merritton, is about retiring. Mr. Kearney commenced his career as a teacher in Ireland. He came to this country in 1852, and has been teaching ever since. He has occupied his present post for seven years.

Mr. Colton, who has been for a number of years first assistant in the Central school, London, has resigned with a view of removing to the north-west. We are pleased to hear that Mr. Stewart, one of the most popular and successful teachers in the London public schools, has been appointed to the vacant position, at an increased salary. Mr. Carson, who is well known as one of the ablest teachers in the west, still retains the position of principal of the model school.

The public school at Jarvis has increased so much in numbers lately that the building it at present occupies is not large enough for its work to be carried on in anything like comfort. The school is doing admirable work under the head mastership of Mr. W. Hinds, who is one of the oldest teachers in the county, assisted by Misses Hoover and Bourne.

The Port Dover grammar and public schools are in one fine and beautifully situated building. The schools have pulled together in the matter of getting up a most successful entertainment, from the proceeds of which additions were made to the school library, and a sum was granted for the support of the Football Club. Mr. S. F. Passmore, B.A., is head master of the grammar school, and he is ably assisted by Mr. James Gray, B.A. The school is in a thoroughly sound condition; nearly twenty students are going up at the intermediate examination, and two are taking matriculation at Toronto university. The public school is under the able head mastership of Mr. W. H. Smith, assisted by Misses J. Smith and McNalley. The latter lady has been teaching in the schools for sixteen years. She has a wonderful power for teaching and managing young children.

Mr. W. Egbert, the energetic head master of the Dunnville public school, has taken up the subject of map drawing in a most thorough and systematic way, and the result is that some most creditable pieces of work are produced in this direction. Drill and calisthenics are also a most noticeably good feature, the time of afternoon recess being generally devoted to these exercises. Mr. Egbert is ably assisted by Misses Flowers, Brown, Stevenson, and Money: and Dunnville has good reason to be proud of the way in which its public school is conducted. The high school, under Mr. Nugent, is also in a most flourishing condition, and the attention paid to music is bearing most marked and pleasing fruit.

Caledonia boasts two very fine schools. The high school, under the head mastership of Mr. Clifford Kemp, B.A., ably assisted by Messrs. Cochrane and Elliot, has about seventy scholars, more than half of whom are taking the intermediate examination. We learn that Mr. Cochrane, the mathematical master, is resigning his post in order to complete his studies at Toronto university. He will be greatly missed, and it is to be hoped that the trustees will be able to find a worthy successor to support the honorable reputation this school has so long and deservedly borne. The public school, under Mr. Frank Shoff, assisted by Misses O'Neil, Watson, and Doyle, is also in a most flourishing condition.

The public school at Hagersville has a handsome and commodious building worthy of so live a town. Mr. D. C. Beattie succeeded Mr. Philip Park in the head mastership at Christmas, and under the new management the school is thoroughly well keeping up its good name. The elder scholars show a marked proficiency in English composition, a specialty not frequently enough distinguishing our public schools. The lower departments of the school are admirably conducted by Misses Black, Stobbs, and Murray.

The public school at Fort Erie has managed, by getting up entertainments during the past few winters, to provide itself with an excellent library of over 300 volumes.

The schools in the county of Brant, under the able inspectorate of Dr. Kelly, are on the whole in a thorough state of efficiency; particularly St. George public school, in which Mr. J. C. Elliott is head master, is really a credit to the village. The trustees, parents, and guardians of the pupils deserve much praise for having such an institution for the education and training of the young.

The West Indies are again represented at Ontario Business College, Mr. S. D Walker having arrived from Bermuda a few days ago to take a course. Mr. J. H. Watlington, a graduate of the college, who came from Bermuda, is now bookkeeper with Currie, Marshall & Co., wholesale jewellers, Toronto.

"I intend leaving home in summer, and I begin to value the JOURNAL now too much to let it go to waste.—Yours truly, WILLIAM C. MORRISON."

"Shall do all in my power to extend the circulation of the JOURNAL. As for myself, as long as the teaching profession claims me as a member, so long shall my name be on your subscription books. I find the JOURNAL a professional necessity.—Yours very respectfully, J. H. W. SCHMIDT, of Kirksville Mercantile College."

The report of the inspector of public schools for the city of Ottawa for the year 1882 is very satisfactory in respect to attendance of pupils, increased school accommodation, and in the employment of teachers of a higher rank than at any previous time. The average attendance of pupils for the year was 1,663. The average attendance for each teacher, 44. The regular staff consisted of 30 teachers and a music master. Of those 6 hold first-class certificates Grade A ; 2 others only one grade lower. The remaining 22 hold Provincial certificates of the second class ; 8 of which are of grade A, 14 of grade B. The average salaries of the teachers is at the rate of $512 per annum ; average for males $774, for females $357. In all the schools a uniform revised limit table, which gives to each study its proper time and place, is in use, which during the three years of its existence has been found of great service and thoroughly workable. While Ottawa is supplied with an excellent staff of teachers, they are ably supported by an indefatigable and painstaking inspector, J. C. Glashan, to whom the success of the city schools is largely due.

The public school at Waterford loses two of its teachers on breaking up for the summer holidays : Mr. Russell Baldwin to continue his studies, and Miss Kate Oliver for an equally good reason—to get married. It is to be hoped that worthy successors to them may be found, and that the school may continue to flourish as it has been doing under the able head mastership of Mr. Geo. F. Chapman.

Dr. McLellan, Dr. Kinney, and Inspector Glashan, have been conducting the Ottawa normal school examinations.

The school building at Simcoe is one of the most beautiful specimens of school architecture in the province. The handsome building, surrounded by beautifully laid out and well-kept garden grounds, is quite an ornament to the town. Simcoe has good reason to be proud of the school itself as well as the building. Under its present indefatigable principal, Mr. H. Grant, B.A., it has attained a most honorable position amongst the scholastic institutions of our country. Its staff has recently been strengthened by the appointment of Mr. D. W. Simpson, B.A., as assistant in the high school department.

An error was made in our last month's issue in reference to Mr. A. N. Chadwick, of Alliston, which he wishes to have corrected. He was offered an assistantship in the Provincial Model School, Ottawa, instead of the head mastership as was reported.

From the report of Inspector Dewar, East Huron, we glean the following : Total receipts from all sources, $51,417.82 ; total expenditure, $45,330.34 ; number of pupils on the roll, 9,214 ; average attendance, 4,305.

Inspector Millar, of West Huron, in his report states : "The work in the school-rooms is being vigorously and successfully prosecuted in a very large majority of the sections. The decreased number of pupils is a great blessing, as the teachers have now more time to devote to the several classes. The mere hearing of lessons will not produce good scholarship. Time must be taken to draw forth the powers of the mind and teach the pupils to think. This must always be the chief aim in education. Taken as a whole our teachers are doing their work admirably, and the schools are in a very satisfactory condition."

From a return just published, it is shown that Huron has a larger school population than any other Ontario county, there being a total of 18,134, of which the average attendance at school was 8,329. This is considerably more than in any other county, and speaks well of educational progress. Goderich, with a school population of 1,250, records an average attendance of 579 ; Clinton, with 900, an average attendance of 360, and Seaforth, with 637, an average attendance of 333. With four separate schools in the county, the total attendance is only put at 282, of which 108 is in Goderich.—*Huron Expositor.*

Guelph separate school trustees purpose erecting a new boys' school to cost $5,000.

We learn that Mr. D. B. Clapp, M.A., the indefatigable and successful public school inspector of North Wellington, has made a new departure in his arrangements. Instead of holding the customary semi-annual conventions, each township will have its own gathering where local school matters will be discussed. We wish him every success in his new undertaking. Below is given a programme which may be of advantage to others :

TOWNSHIP INSTITUTE.

A Township Institute of the Teachers in.....(and adjoining Towns and Villages) will be held at.....School-House, in S. S. No...., on..... the.....day of..... 188.., beginning at 8:45 a.m.

PROGRAMME.

1. Election of Officers.
2. Appointment of Committees.
3. Roll-Call.
4. Payment of Fees to North Wellington Teachers' Association.
5. Selection of Subjects for General Discussion.
6. Question Drawer.
7. Uniform Promotion Examination—Reports and Suggestions from Teachers. Bring Regulations, etc, with you.
8. .....
   Critics.....
9. .....
   Critics.....
10. .....
    Critics.....
11. .....
    Critics.....
12. .....
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16. .....
    Critics.....
17. .....
    Critics.....
18. .....
    Critics.....

Teachers are requested to give their Trustees a special invitation to attend our Institute. Every Teacher in the Township is expected to be present and to do all he (or she) can to make our meeting a success. The Pupils shall be under the charge of the Master, who will open the School in the usual way The time-table of the School is to be followed as closely as possible, and no Teacher can be allowed more than half an hour for each subject or class. Essays are to be within a twenty-minute limit in length. The Time-Table of the School, General and Class Registers, with the Visitors' Book shall be open for the inspection of all visitors, to show how carefully, accurately, and neatly they are kept. The Master of the School is to make due provisions for the entertainment of the visiting teachers and their friends. You are requested to be *punctual.*

All the Schools of the Township of..... ...shall be closed during the meeting of the Institute.

DAVID P. CLAPP, Inspector of Schools.

Harriston,.....188..

Wm. Collin, teacher at Shakespeare, died suddenly one morning last week. He retired to rest in good health, and by 1 o'clock in the morning was dead. Apoplexy was the cause.

The trustees of the Seaforth high school have engaged Prof. Jones to teach music, and have purchased a piano for the school. They have earned the gratitude of their constituents, and have set an excellent example to older institutions. Their school is not yet four years old, and has a staff of four teachers.

The high school literary society's exhibition in the Concert hall, Brampton, was one of the most interesting events of the season. There was a large attendance, and from the beginning to the close of the entertainment the audience was kept attentive and interested. The programme consisted of exercises in calisthenics, readings, and music, every part of which was well executed, and the community hope they will be favored with another exhibition of a similar character before the close of the year.

The highest salary paid a public school master in a city is $1,200 and lowest $400. In a town the highest is $1,000 and the lowest $275. The highest salary paid the head master of a collegiate institute is $2,250 and the lowest $1,200. The highest paid a high school master is $1,400 and the lowest $700.

There were only 258 first-class teachers in the public schools of Ontario in 1881.

The English literature for the intermediate for 1884 will be Goldsmith's "Traveller," "Gray's "Elegy," and Burke's "Reflections." An admirable and noted edition of the above has been edited by J. Millar, B.A., head master of St. Thomas collegiate institute, whose former works on English Literature are recognized as the most valuable issued for Canadian schools.

We are pleased to see the deep interest manifested by so many teachers throughout the province in promoting the cause of Temperance. Teachers have a wide field for usefulness, and while surrounded by the young will fail in discharging their duty if they do not by every possible effort prove that under no circumstances are intoxicating drinks good, and that there is not a country in the world where stimulants are so little needed as in Canada. The following resolutions were passed by the teachers of the Prince Edward county association :

Resolved, That, I. —We the Teachers of Prince Edward County, express our sympathy with anything that tends to promote the cause of Temperance.

II.—We are of the opinion that Teachers cannot well do too much to further the cause.

III.—That, as the hope of our nation is in the rising generation and to the teacher is committed this great responsibility, the school is the place to instil into the minds of the rising generation a love for temperance and a hatred of alcoholic liquors.

IV.—That we would welcome in our schools a scientific text-book dealing with the effect of alcoholic stimulants on the human system.

W. R. Brown,
S. B. Nethery, } Committee.
Miss N Hicks,

On Friday, 16th inst., St. Joseph school authorities, Chatham, gave a grand musical and literary entertainment in the new exhibition hall of the school. Mr. O'Neil, the chairman of the separate school board, occupied the chair. The Catholics of Chatham may well feel proud of possessing a hall so well adapted for school entertainments, while the talent and energy displayed by the head master, Mr. O'Hagan, by whose able hands the programme was largely planned and sustained, are worthy of high praise. Mr. O'Hagan, who came to Chatham highly recommended as a teacher, has proved himself far superior to the reputation and highest hopes entertained of him by his many friends.

We congratulate the citizens of Chatham on their possessing so excellent a school building as the one that was opened for school purposes with so pleasant an entertainment on Monday, 18th inst. The entertainment consisted of speeches, and music by the children, who have been carefully instructed by Mr. Bracken, the principal, and who deserves great credit for the proficiency displayed. The building, which was tastefully decorated with flags and emblems of welcome, consists of six school-rooms and an assembly room, and cost $14,000. The grounds have been beautifully laid out and planted with trees, flowers, &c. No pains have been spared to make the rooms comfortable, and in addition to architectural and ornamental work, the difficult task has been performed of combining good ventilation with sufficient heating. After the chairman had made his report, and stated the reason for their being present, Rev. A. McColl, inspector, spoke with much feeling on the nature and benefits of education as the instrument for the bringing out of latent talent, of a kind appropriate to the moral and social requirements of the present age. In ancient times the education of Egypt and Greece was based on principles and guided by aims alien to this Christian age, in which the Bible was the foundation of the school system. It had been truly said that the teacher who had the moulding of the boy's character up to the 12th year was doing a work which no subsequent training could alter or undo. After a well-merited tribute to Mr. Bracken, the speaker sat down amid applause. Rev. Mr. Parker, Rev. Dr. McVicar, of Montreal, Rev. J. R. Battisby, Judge Bell, the Mayor, Rev. Mr. Walker, and Dr. Holmes expressed good wishes for the success of the school, their gratification at being present on so happy an occasion, and although not so very long ago that very spot was primeval forest, the building of this school was not a finality but the initial landmark of a series of like improvements in Chatham. Rev. Dr. McVicar, of Montreal, said that he could go back mentally to a time when there were no school-houses in Chatham. He recalled the names of various Chathamites who had been his instructors, among whom were Rev. A. McColl, and two Dixons, one of whom was in Hamilton, and the other in Australia. He was in favor of liberal expenditure for school purposes and equality in the payment of lady and gentlemen teachers.

On Friday evening, 15th inst., the annual musical and literary entertainment under the auspices of the Goderich high school literary society was held in the town hall. The programme was a good one, the attendance large, and everyone seemed to be well pleased, and heartily congratulated those who had contributed to the enjoyment of the evening.

The St. Louis school board has made an order that after September 1st next corporal punishment shall be abolished in the city public schools.

At the evening entertainment of the Elgin teachers' association, held in St. Thomas, there was a departure from the usual routine which we think a very pleasant one and which we feel certain was heartily enjoyed by all present ; this was the presentation of a very handsome gold watch and the accompanying address by the teachers of Elgin county to their much respected inspector, Mr. A. F. Butler :

ADDRESS.

To A. F. Butler, Inspector of Public Schools :

Dear Sir,—In behalf of the teachers of Elgin county we have chosen the present occasion as a suitable one for performing an act which, we hope, will meet with your approbation and acceptance, and which will afford us unalloyed pleasure and joy.

For the past fifteen years you have devotedly and ardently labored in the capacity of Public School Inspector in this county, and the result of your labor is best seen in the present condition of the Elgin schools.

Although our system of school management has been greatly improved by legislation within that time, yet the healthy and efficient state in which our schools are, is due, in the greatest measure, to your determined efforts to change the old, dry, mechanical style of hearing recitations to the enlightened and intelligent style of imparting living knowledge to those embryo minds that are entrusted to our care.

Your advice has been given in such a kind, unassuming manner that the most egotistical among us could not help but profit by it. Your deportment in the school-room during your official work is such that your semi-annual visits are looked forward to with pleasure by teachers and pupils. You are ever there a welcome guest, leaving behind some pearl of thought to encourage to renewed diligence the wearied teacher, or awaken within the dormant mind of the thoughtless pupil some new inspiration of knowledge.

In our laborious and often discouraging work in the school room a kind and sympathetic word from you, or a little timely advice, has often dispelled the cloud of gloom that overcast us and we have been enabled afterwards to see more plainly our path of duty.

You have led us to understand that in our school work

"Nothing useless is, or low;
Each thing in its place is best,
And what seems but idle show
Strengthens and supports the rest."

Our earnest wish is, that you may long be spared to carry on the noble work in which you have been so long engaged, and may the happy relations now existing between you and the teachers of Elgin ever exist while you remain among us.

Before closing this address we ask you to accept this gold watch as a small token of the esteem in which we hold you.

May the bright metal in its cases be emblematical of the pure feelings of regard and respect which actuate us in presenting it; and as you view its intricate mechanism may you be reminded that while the wheel of time rolls round we can never forget the many acts of kindness, words of advice and feelings of sympathy which you have given us.

(Signed)
Levi Cottington,
R. C. Inglesby.
J. B. Ogilvie.
J. E. Orr.
W. M. Ellison.
Geo. Duncan.
J. W. Amos.

Mr. Butler made a very appropriate reply to the address. The speaker of the evening, Dr. McLellan, high school inspector, was then called upon, and delivered the finest lecture on Education ever delivered in the city.

We are pleased to learn that at the meeting of W. Lambton teachers' association Mr. John Brebner, I.P.S. who is so highly respected by all the teachers in the inspectorate, was presented with a very complimentary address and a valuable gold watch and chain as a slight acknowledgement of the appreciated services rendered during the many years he has presided over their deliberations. Mr. Brebner has succeeded in securing the good will of all the teachers in the inspectorate.

The Board of Education, London, recently adopted, with the exception of the first clause, the following medical regulations .—Smallpox—All pupils will be required to produce a physician's certificate of effectual vaccination before admission to any of the schools. All pupils residing in any house where smallpox exists will be excluded until thirty days after patient's recovery. Scarlet fever—All pupils coming from any house where scarlet fever exists will be excluded until twenty days after patient's recovery ; except children who have previously had the disease, who will be excluded until ten days after the recovery of the patient. Diphtheria—Excluded as above for ten days. Measles—Until recovery of patient ; patient excluded for ten days after recovery. Mumps, whooping-cough, chickenpox, or any eruptive diseases of the scalp—Until complete recovery. Evidence necessary for above—Physician's certificate. Pupils visiting places where scarlet fever or diphtheria exists will be excluded. Some doubt being expressed as to the legality of the first clause it was referred to the City Solicitor for his opinion.

A right education is not merely the reading of many books, but the ability of making knowledge useful to ourselves and to others.

A report of the Oxford teachers' association says: The most interesting feature of the convention to the general public was the lecture by Principal Buchan of Upper Canada college upon Poetry and Politics.

Rev. Mr. English has leased the Hellmuth ladies' college property for the next collegiate year. The year following Mrs. Russell will undertake its management. Major C. A. Armstrong, of St. Leonard-on-the-Sea, England, will act as principal.

The following yearly subscriptions have been promised to the ladies' medical school, Kingston, for five years:—Dr. Jenny K. Trout, Toronto, $200; Mr. John Carruthers, $100; Hon. G. A. Kirkpatrick, $50; Folger Bros., $50; Principal Grant, $100; Mr. William Hartz, $100; and Mr. A. Gunn, M.P., $100; altogether, $3,500.

The legislative grant for public school purposes this year to schools in Northumberland is as follows:—Cobourg, $717; Haldimand, $691; Hamilton, $642; Brighton, $504; Seymour, $474; Murray, $446; Cramahe, $435; Percy, $427; Campbellford, $225; S. Monaghan, $153; Alnwick, $152; Colborne, $136; total, $5,002.

At the Chatham district teachers' association, the following out of the question drawer were gravely, and it is said profitably discussed: (1) If you told a big boy to stand in the corner, and he took his hat and went home, what would you do when he came back? (2) If a scholar said, "Let me *sit* the books on the table," and you corrected him, and he said, "Mr. Jones told us to say 'sit,'" what would you do?

During a recent visit to the flourishing city of St. Thomas, we could not but admire the enterprise of the place in educational matters. Already the collegiate institute has acquired a front rank, and with its efficient staff of masters who are specialists in their department, progress must continue. The building is a very commodious one and the grounds are amongst the finest in the Province. A beautiful fountain has been placed in the lawn in front of the institute and this, together with the display of flowers, trees, and shrubs, shows the good taste of the citizens. The appreciation of the board of the principal's services is shown by the advancement of Mr. Millar's salary from $1,250 to $1,550.

During the last session of the teachers' association held in Norfolk, a communication was read from the Ontario Woman's Christian Temperance Union, inviting co-operation in their work, whereupon after discussion, it was moved by the Rev. Geo. Grant, seconded by Dr. Wadsworth, that, "This association, recognizing the evils connected with the use of intoxicating drinks, approve of the idea and advocate the introduction of books on temperance into our public and high schools, as a strong agent in uprooting the existing evil of intemperance." Carried.

The question of providing suitable teachers' residences has not apparently received the attention of trustees and ratepayers. Only two have yet been provided; one in Nassagaweya and one in Acton. As matters now stand, married teachers are almost forced out of the rural sections, from inability to get a house in which to live. Of the nineteen married teachers employed last year, five taught in the towns or incorporated villages, four in the smaller villages, two taught in rural sections but lived in the adjoining town or village, two others lived in homes of their own, and six lived in the section in which they taught. Not more than one section in ten can provide a house for a married teacher. I hope the day will soon come when in the larger and wealthier sections the erection of a teacher's residence will be regarded as favorably as the erection of a manse or a parsonage. I believe the establishing of suitable residences for teachers would advance the cause of education. Experienced teachers would be retained in the profession; the evils resulting from frequent changes of teachers would be greatly diminished; and in the end the cost of education would be reduced.—*Mr. Little's Report.*

The following show the advancement of educational interests in the county of Halton:—(*a.*) During the year a handsome and commodious brick school house, named "Lorne School House," was erected in S. S. No. 12 Esquesing. The site is an acre in extent, and is surrounded with a substantial picket fence. A good well has been provided, and the trustees purpose during the present year to erect a wood-house and outbuildings. Total cost, $1,675.78. (*b*) In Milton the public school board enlarged the model school by the addition of a new stone wing. They also erected larger outbuildings, enclosed two additional lots and part of the original site with a neat picket fence, and repaired the main building. The total outlay amounted to $3,483.82.—*Mr. Little's Report.*

In the report of the Honorable the Minister of Education for 1880-81, the percentage of average attendance, compared with the total number attending school, is given as 43 per cent. for the counties of the Province. The percentage in Halton, for the year of the report, was 45. Ten counties had a higher percentage, viz.: Prince Edward, Durham, Lincoln, and Huron, each 46; Dundas, Oxford, Perth, and Middlesex, each 47; Waterloo, 49; and Lanark, 50. Two counties had the same percentage as Halton, and the remaining twenty-nine counties, including the districts, ranged from 44 down to 35 per cent.—*Mr. Little's Report.*

J. W. Acres, M.A., has, we believe, the honor of being the senior teacher in the Province of Ontario. For upwards of a quarter of a century he has held the position of principal of the Paris schools. During that time he has won affection, respect, and admiration alike from teachers, scholars, parents, managers, and all who have come into contact with him. The schools are to-day in as flourishing condition as they have ever been. There are in all ten departments, two of which form the high school. The principal building is a fine brick structure, beautifully situated, overlooking the whole of the city, and commanding a magnificent view of the valley of the Grand river and the surrounding country. In the high school Mr. Acres is ably assisted by Mr. Armstrong. Mr. C. Dodge is the senior teacher in the numerous departments of the public school.

Mr. Burrows, P.S.I., of Napanee, and Mr. Tilley, P.S.I., of Bowmanville, have been conducting the examinations in the normal school in this city.

Dr. Kelley, M.A., Brantford, and D. C. Ross, M.A., Toronto, have been conducting the Ontario examinations for the Gilchrist scholarship. There was only one Ontario candidate. The Gilchrist scholarship is of the value of £100 sterling per annum and is tenable for three years.

MANITOBA.

The regular quarterly meeting of the Council of the University of Manitoba, was held in the Education Offices, Thursday, June 7th. The Chancellor, the Vice-Chancellor, the Registrar, the Bursar, Rev. Prof. Cloutier, Ven. Archdeacon Pinkham, Rev. Prof. Hart, Rev. O. Fortin, Very Rev. Dean Grisdale, Ven. Archdeacon Cowley, Rev. Prof. Bryce, Rev. Canon Matheson, Hon. Attorney-General Sutherland, Rev. Canon O'Meara, and Rev. D. M. Gordon were present. The Chancellor took the chair at 2:10 p.m. The minutes of the last meeting were read and confirmed.

Archdeacon Pinkham moved, seconded by Rev. O. Fortin, and it was resolved that the fee for the degree of M.A. be $4.

The results of the recent examinations were then read by the Chancellor. Moved by Prof. Bryce, seconded by Archdeacon Cowley and resolved, that the report be received and adopted. Prof. Hart, on behalf of the Committee appointed at the last meeting, reported the blank forms for the degrees of B.A. and M.A., and the purchase of three silver and three bronze medals. The report was received and adopted. A letter was read from the Registrar of the General Council of Medical Education and Registration of the United Kingdom. Moved by Prof. Bryce, seconded by Canon Matheson, and resolved, that the candidates for the previous examinations may, if they please, take the Elementary Statics and Hydrostatics of the B.A. degree.

The annual Convocation of the University of Manitoba for conferring degrees, presenting medals, etc., was held on Friday, June 8th, in the temporary Legislative Hall, in the new Court House. Besides a considerable number of ladies and gentlemen who were present as spectators, including students of the various colleges, the following gentlemen occupied seats on the floor of the House:—Hon. Jos. Royal, M.P., Vice-Chancellor, in the chair; Mr. T. A. Bernier, Registrar; Very Rev. Dean Grisdale, Rev. Canon O'Meara, Rev. Canon Matheson, Rev. A. L. Parker, and Rev. R. Machray of St. John's College; Rev. Prof. Cherrier, Director, and Rev. Prof. Cloutier, St. Boniface College; Rev. Prof. Bryce, and Rev. Prof. Hart, Manitoba College; Hon. John Norquay, Premier; Hon. A. A. C. LaRiviere, Provincial Secretary; Hon. Attorney-General Sutherland, Hon. S. C. Biggs, U. S. Consul Taylor, Rev. O. Fortin, Rev. D. M. Gordon, Rev. H. T. Leslie, Mr. Rice Howard, Dr. Agnew, and Dr. Jackes. The members of the University wore their distinguishing costume. The Vice-Chancellor opened the proceedings with an address, in which, after apologizing for the unavoidable absence of His Lordship the Bishop of Rupert's Land, Chancellor of the University, he said:—Ladies and gentlemen, you are witnessing an experiment of the most interesting character. We are making an experiment which was never attempted before. We are trying to build up in a mixed community, an institution on the broad basis of common sense and mutual Christan tolerance.

In conclusion the hon. gentleman said:—In view of the grand objects of this University, in view of the success accomplished so far, in view of its future progress and consolidation, let me hope, ladies and gentlemen, that the enlightened generosity of governments will provide the means necessary to render the existence of the University of Manitoba free from precarious assistance and worthy of its noble object.

Mr. J. R. Bird, of St. John's College, was called forward and presented by the Chancellor with the Governor-General's silver medal, and Mr. F. A. Brown, of Manitoba College, similarly received the University bronze medal, these distinctions being awarded for pre-eminence in classical honors of the third year, including the second year's marks. The Governor-General's bronze medal, won by competition in the previous examination, was presented to Mr. J. W. Matheson, Rev. Canon O'Meara then presented to the Vice-Chancellor, Mr. J. R. Bird, as qualified to receive the degree of B.A., and Rev. Prof. Bryce similarly presented Messrs. F. A. Brown, D. Anderson, and J. B. D. Code, of Manitoba College, and Mr. Archibald McLaren, a non-collegiate student, and the Vice-Chancellor accordingly conferred upon these gentlemen the title to which they were entitled. The degree of M.A. was conferred upon Mr. W. R. Gunn, B.A., of the University of Manitoba. Ad eundem degress were conferred upon Rev. A. L. Parker, M.A., and Rev. R. Machray, B.A., who were presented by the Registrar. There were no candidates for the degree of A.B. from the St. Boniface College, for the reason that the institution had to be closed during a part of the session, owing to illness amongst the students.

The Hon. John Norquay, Premier of Manitoba, and U. S. Consul Taylor made excellent speeches.

The foundation stone of the new St. John's College was laid on Thursday, June 7th, by His Lordship the Bishop of Rupert's Land, in presence of most of the members of the College council, the professors, masters, and members of the college, and the college school. The ceremony was of a religious character. The Bishop opened the proceedings with an address, which was followed by an appropriate ceremony.

The following articles have been deposited in the casket in the stone: The University Act of Parliament and Statutes and Calendar for 1882. Acts and documents relating to the Ecclesiastical Province and Diocese of Rupert's Land, including the Statutes of Cathedral and College. Report of 2nd Provincial Synod. Report of Diocesan Synod, 1881. Special service at induction of Dean and Canons. Syllabus of St. John's College Ladies' School. Winnipeg Weekly *Free Press*, June 1st, 1883; Winnipeg Daily *Free Press*, June 7th, 1883; Winnipeg Daily *Sun*, June 6th, 1883 The account of St. John's College and College School corrected to the present date. The names of the architects and builder of the College and statement of the stone being laid by the Chancellor and the Bishop of Rupert's Land. The work of construction was begun on the present wing a few weeks ago, and will cost on completion about $75,000. The entire edifice when finished according to the intended plan, will cost $250,000. The foundation is stone and the superstructure brick. Upon return to the old college building, vacation was announced until the first Wednesday of September.

An interesting incident during the St. John's College term was the presentation to Rev. A. L. Parker, M.A., of an elegantly framed and illuminated address by the students of the previous year. The presentation was made at his residence, after which they were hospitably entertained at supper.

A large number of the young ladies attending the St. John's College Ladies' School, received prizes for the several branches taught therein, and a gold medal was presented by the lady principal for lady-like deportment and observance of rules.

The following gentlemen have recently been appointed members of the Board of Education, viz: Rev. G. Cloutier, of St. Boniface, vice Rev. J. B. Beaudin; J. B. Somerset, of Winnipeg, vice J. H. Stewart, deceased; James Prendergast, of St. Boniface, vice Alexandre Kittson, deceased.

NOVA SCOTIA.

The anniversary exercises connected with the close of the college year at Acadia, extended from the 5th to the 7th of June. The Associated Alumni held their annual session on the 6th, and an adjourned meeting on the 7th. The following were elected officers for the ensuing year: President—H. C. Creed, A.M.; Vice President—Judge Johnston; Secretary-Treasurer—W. L. Barss; Directors—J. F. Parsons, A.B., B. H. Eaton, M.A., Prof. R. V. Jones, M.A., E. A. King, M.A., J. W. Longley, M.A., Rev. E. J. Grant, Frank Anderson, B.A. The society chose for election as governors of Acadia College, Silas Alward, Esq., M.A., D.C.L., of St. John, and H. C. Creed, Esq., M.A., of Fredericton.

The anniversary exercises of Acadia College were held on the 7th in Assembly Hall. A large audience was present and much enthusiasm was manifested. After an interesting musical programme was gone through the national anthem was sung and the benediction pronounced.

The orations exhibited independent and vigorous thinking and were well delivered. At the close, the eleven young men whose names appeared on the programme received their degree of Bachelor in Arts.

The following graduates received the degree of M.A. in course:—Prof. Kierstead, E. M. Chesley, J. B. Oakes, J. C. Archibald, B. W. Lockhart, Dr. Lewis Hunt.

The following honor certificates were awarded to C. S. Wallace, senior in history, philosophy, and classics; C. W. Bradshaw, senior in history; H. Welton, senior in history; D. S. Whitman, senior in history and philosophy; Hutchinson Sophomore, in classics; Ross Sophomore, in English.

After conferring the degrees, Dr. Sawyer announced that the Senate had conferred the honorary degree of D.C.L. upon Silas Alward, Esq., M.A., of St. John, and Judge Wetherbee, M.A., of Halifax. At the close of the graduating exercises the Alumni dinner took place in the large dining-room of Chipman Hall. There was a large attendance. The following toasts were drunk at the close of the dinner: 1st, The Queen, proposed by E. D. King; 2nd, Alma Mater, proposed by E. D. King, responded to by Dr. T. H. Rand and A. J. Denton; 3rd, The Dominion and Local Legislatures, proposed by H. C. Creed, responded to by D. B. Woodworth, M.P. and J. W. Longley, M.P.P.; 4th, The Board of Governors, proposed by J. W. Longley, responded to by D. R. Eaton; 5th, The Senate of the University, proposed by J. B. Mills, responded to by Judge Johnson; 6th, The Faculty of the College, proposed by Dr. Saunders, responded to by Dr. Higgins; 7th, Our Fathers and Founders, proposed by E. D. King, responded to by Rev. Dr. Pryor and Rev. Dr. Bell; 8th, The Graduating Class, proposed by Prof. Kierstead, responded to by O. C. S. Wallace, B.A.; 9th, Our Sister Colleges, proposed by Prof. Jones, responded to by W. Graham, Esq., and Prof. Kierstead; 10th, Our Guests, proposed by H. C. Creed, responded to by Mayor Fraser; 11th, The Press, proposed by Dr. Rand, responded to by Mr. Seldon; 12th, The Fair Daughters of Acadia, proposed by Prof. Caldwell.

The annual meeting of the Teachers Association for District No. 10., county of Cumberland and North Colchester, was held at the thriving village of Acadia Iron Mines, on the 14th and 15th of June. Inspector W. D. Mackenzie was *ex officio* President, though at several sessions the chair was efficiently filled by the Vice-President, W. R. Slade, Esq. The duties of Secretary-Treasurer were well performed by Mr. Gordon Hill. The programme of exercises were as follows: 1. "Class Lesson in Industrial Drawing," Miss Parker; 2. "Outlined Methods of Teaching Drawing," Miss Smith, Instructor in Provincial Normal School; 3. "The Proper Mode of Teaching Grammar and Analysis," Mr. Hutchinson, Principal of Public Schools, Parrsboro'; 4. "The Teacher's Duty as to Cleanliness and Politeness of Pupils," Miss Jenks, of Public Schools, Amherst; 5. "Class Lesson in Mineralogy," Mr. Francis, Principal of Public Schools, Acadia Iron Mines; 6. "Reading," Miss Wood, of Oxford Public Schools; 7. "Music," Mr. Baillie, Principal of Public Schools, Wallace; 8. "School Ventilation," Dr. J. W. McDonald, of Acadia Iron Mines; 9. "Recitation," (essay), Miss Travers, of Public Schools, Amherst, followed by a recitation, by Miss Wood; 10. "The School Master," by Mr. Lay, Principal of County Acadamy," The several papers and exercises were thoroughly discussed. Mr. Fraser's interesting class exercise in Mineralogy elicited strong expressions of opinion as to the importance of such studies, rightly pursued, to the industrial development of Nova Scotia. Dr. McDonald was warmly thanked for the excellent paper (with admirable illustrative experiments) in which he called attention to a matter whose neglect undoubtedly lies at the root of much of the physical debility and mental irritability found in our schools. Professor Eaton, of the Provincial Normal School, was present during a part of the exercises, and favored the Association with an eloquent and instructive address on "The practical aspects of Modern Education." The public meeting of the 14th was attended by a large and influential audience. St. Bridget's Hall, which is a most spacious auditorium was thronged to the door. The address of the Superintendent of Education was upwards of an hour in length and was mainly an exposi-

tion of the true relations subsisting between general and technical education. Great sympathy was expressed with farmers whose lands are running out and whose crops are failing, and, who feeling assured that there is a right and scientific way of tilling land are demanding for their sons education or opportunities denied to themselves, and with all who are striving to build up in Nova Scotia technical schools such as in other lands have revolutionized industrial methods and national life. At the same time the audience was reminded that man does not live by bread alone, that his higher nature has its rights, that those professions which are sometimes sneered at as unproductive are honorable and necessary, and that all true teachers and all just educational systems should aim at a reasonable compromise, or rather, conciliation, of the literary and practical elements of education. A hearty vote of appreciation of the Superintendent's address was moved by the Rev. V. E. Harris (Anglican Rector), and seconded by Rev. Father Hamilton, P.P. The latter gentleman took occasion to refer to the excellent condition of the public schools of Acadia Iron Mines, and his personal knowledge of the meritorious services of the teacher. The Rev. Mr. Harris was also present at several of the regular meetings of the Association and spoke interestingly on some of the topics thereat discussed. Rarely does it fall to the lot of an educational gathering to hold its meeting amid a more appreciative community or among more instructive surroundings. Aradia Iron Mines, a village of some 2,500 inhabitants, situated in a picturesque chasm of the Cobequid Mountains, is the seat of the vast business of the celebrated Londonderry Iron and Steel Manufacturing Company. Here upwards of 100 men are constantly employed in smelting and cognate processes. The enthusiastic Secretary of Trustees, Mr. Hutchinson, to whom the excellence of the village schools is largely due, occupies a position of prominence and trust under the company, and at the close of the Superintendent's lecture on the evening of the 14th, invited the Association to accompany him to the works and witness the interesting process of casting, or drawing off the pig iron. Many of the visitors remained till nearly midnight, extending their observation to the extensive rolling mills of the company, where at a vast series of furnaces the sons of Vulcan were forging bars not inferior in ductility and strength to the best products of Wales or Sweden.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

Owing to the crowded condition of our JOURNAL, we are sorry to be compelled to give the briefest notice of the different Teachers' Associations lately held. Many pages could well be filled with accounts of essays, talks, and interesting discussions, while instead of the mere mention of a name, laurels have been well merited by those who have labored long and successfully in their arduous profession.

MINTO.—The teachers of Minto township, held their first annual township convention in school house, school section No. 1, Minto, on Friday, June 8th. The attendance was very good, ten teachers being present. A number of course did not put in an appearance, some of whom, we believe, have contracted the habit of being absent. This habit of being absent will be lessened in future we trust, as the names of the absent few have to be sent to Toronto without delay. The programme as rendered consisted of the following: "Literature, II Class," which subject was ably rendered by P. H. Harper; an interesting and instructive essay was then read on "Text Books," by Mr. Clapp, inspector; then followed a lesson on "Numeration," by M. Ferguson; followed by "Writing," by Jas. Wiseman; both of which lessons were well taught. In the afternoon Mr. Clapp passed some remarks on "Dictation and Spelling," which we hope will not be lost to the teachers present. Miss Harper next followed with a highly instructive lesson on "Addition, Part II;" "Map Drawing" was then taught to third class, in a manner which reflected great credit on the teacher, A. M. Spence; W. McEachern then read an essay or criticism on "Promotion Examinations" as carried on this year, holding forth some views which we anticipate will be taken advantage of in future by the examiners. The place of meeting was then considered, when it was resolved to meet in school section, No. 8, Minto, after which the meeting adjourned. The thanks of the institute are hereby tendered the resident teacher and friends of the section for their cordial reception of the visiting teachers. —*Harriston Tribune.*

LANARK COUNTY.—The semi-annual meeting of this Association was held in the high school building, Almonte, on May 25 and 26. The meeting was one of the most successful yet held, a pleasing feature of it being that most of the essayists were young teachers who had not previously appeared before the Association. *Friday.*—The president, F. L. Michell, I. P. S., opened the meeting with a brief address, in which he gave a retrospective view of the teaching profession, and endeavored to impress upon the teachers present the nobility as well as the importance of their profession. The first paper read was by Mr. W. P. Robertson of Almonte. Mr. Robertson thought that there was a danger of our educationists running to the other extreme from that which prevailed some years ago when almost everything was required to be memorized. An interesting discussion followed the reading of this paper. Mr. N. S. Dunlop, of White Lake, followed with an excellent paper on spelling. He pointed out some of the anomalies and difficulties of English spelling and advanced many strong reasons for the introduction of the phonetic system. On the text-book question a committee was appointed to examine the rival sets of readers, and to report at next meeting as to their respective merits. The afternoon session was opened by the teaching of a model object lesson to a class from the Almonte public school, by D. A. Nesbitt of Pakenham. He showed that object lessons can be made the means not only of developing the perceptive and reflective faculties, but of teaching that much neglected subject, English Composition. Mr. Rothwell, Principal of Perth Collegiate Institute, gave a blackboard illustration of his method of teaching decimal fractions to an advanced class. His explanations were well received and called forth considerable discussion. The last paper of the afternoon was one by Mr. J. G. Dunlop of Carleton Place, on "English Grammar." The necessity of presenting correct forms of speech to the child from infancy onwards, was urged. He referred, also, in a general way, to teachers' difficulties, home training, and text-book deficiencies. Want of time prevented any discussion on this interesting subject. In the evening a lecture on "The Art of Caricature," accompanied by sketches of several Almonte "celebrities" was delivered in the Music Hall, by J. W. Bengough, the *Grip* cartoonist. If we may judge from appearances the teachers enjoyed this part of the programme immensely. *Saturday.*—On motions duly made and carried the following were elected officers for the ensuing year:—President, F. L. Michell, I.P.S.; Vice-president, John McCartar, Almonte; Sec'y-Treas., H. S. Robertson, Perth; Auditors, Messrs. Rothwell and Steele; Management Committee, Miss Sim and Messrs. Errat, Clarke, Caswell, Smitherman. Messrs. Robertson, Clarke, Errat, Nesbitt, and Steele were appointed a committee to invest $100 in the purchase of educational works for the library, and to devise a plan for the better distribution of the books. The Treasurer's statement for 1882 showed a balance of $159.29 to the credit of the Association. Mr. Smitherman's paper on "Fourth Class Literature" was so highly appreciated that he was requested to allow the secretary to publish it in the local papers. Mr. J. M. Cleland then introduced the subject of "Opening Exercises and Task in School." During the discussion on the subject the inspector said that Mr. Cleland had the neatest school-house and most tastily kept grounds in the county. Mr. McGregor, Chairman of the Question Drawer Committee, now answered several questions which were of much interest to the teachers present. A lively discussion on the question of granting permits then followed, which ended in the Association entering its protest against the system. Mr. J. A. Sinclair opened the afternoon session by reading an excellent paper on "How to Promote Obedience in Pupils. Both in this paper and in the discussion which followed were many points brought out which must be especially beneficial to young and inexperienced teachers. The president brought the meeting to a close with a very suggestive address on "The Teacher and his Assistants," in which aptitude, training, and experience were laid down as the essential qualifications of a good teacher. The meeting adjourned to meet next in Perth at the call of the executive.

NORTH YORK.—About fifty teachers in the northern division of York county, assembled in the model school room, Newmarket, on Thursday, 7th inst., at 10 o'clock. The President, Mr. D. Fotheringham in the chair. The first subject discussed was "Methods of marking Attendance, Conduct, and Recitation," by Messrs. Rannie, Jewett, Armstrong, and Holland. An excellent practical essay was read by Miss Birnie on "How to secure Correct Language from Pupils," which was followed by a long discussion on Vocal Music by Messrs. Holland, Eckardt, and Love. Professor Loudon, of Toronto university, added to the interest of the meeting by the manner of treating his subject "Certain Hindrance to Substantial Progress in Learning," and by his lecture on "Production of Sound." Mr. Buchan's lecture on "American Humor" was thoroughly appreciated, and showed an extensive literary knowledge on the part of the lecturer. The remarks of Dr. Forrest, of Bradford high school, on "Primary Reading by the Phonic System" were very satisfactory. Messrs. Rose, Price, Shields, Love, and Dr. Forrest, discussed at considerable length the advisability of "Punishment," each giving some good ideas on home work. After the adoption of an excellent programme for the next session the convention adjourned.

STORMONT.—The twelfth half-yearly meeting of the Stormont teachers' association, was held in Duvall's Hall, Newington, on Thursday and Friday, May 17th and 18th. The president, Mr. McNaughton, I.P.S., occupied the chair, and after the usual opening, called upon the secretary to read the minutes of the last meeting, which were duly read and approved. An agent of the Canada Publishing Company who was present, received permission to address the association. He introduced to the notice of the teachers assembled a newly published series of readers which he was confident would soon be authorized for use in schools. He pointed out the superior excellencies of said publications as compared with other similar text-books, and called particular attention to the lessons on temperance, hygiene, &c. A discussion ensued on the respective merits and demerits of the books compared, and a committee consisting of the president, the secretary, and Messrs. Talbot, Cook, and Bissett, with power to add to their numbers, was appointed to examine them, also those published by Gage & Co., and report the result of such examination at some future time. The president read an extract from the Minister of Education referring to text-books, also from the official report referring to teachers. He showed that Stormont furnished as many certificated teachers as other counties in the province. He spoke of a meeting of inspectors in the city of Kingston, that passed resolutions recommending an increase of government grant to increase the salaries of teachers. He thought the government should pay at least one-sixth such salary. Several teachers expressed their approval of the suggestion of the president. Mr. Relyea thought if teachers would work harder they would be better paid. Mr. Baker read an essay on "The Teacher's Personal Duties," dwelling especially on the necessity of energy of character and gentleness of manner in order to the proper performance of those duties. Remarks complimentary to the essayist were freely made upon the various points of interest in the essay and the thanks of the listeners were given him. Mr. Casselman next showed "How to Teach Composition." He emphasized the importance of making the work easy to beginners by teaching them how to express clearly their ideas of familiar things. In the discussion which followed, some difference of opinion was elicited as regards the time when the little ones should be expected to begin to write sentences. Thanks were given Mr. Casselman for the ability displayed in his treatment of the subject, and the benefits likely to be derived from his effort by those listening. On motion of Mr. Bigelow, a committee consisting of Messrs. Casselman, Talbot, and Cook, was appointed to answer the questions found in the question drawer. The first subject disposed of the second day was "The Art of Penmanship," by Mr. Cook. He explained the principles upon which the formation of the letters depends; showed how to form the letters from those principles; spoke of the correct method of holding the pen; and called attention to the proper position the pupil should assume at the desk. Some objections were urged by the speakers who followed against the Spencerian system of penmanship on account of its alleged impracticability. Mr. Bissett dealt with the subject assigned him on the programme, viz.: "Incentives to Study." He thought the principal power to be employed by the teacher to incite his pupils to intelluctual effort was his own personal approval or disapproval of their conduct. He should cultivate a pleasant and persuasive manner; have tact to praise at the proper time; and know just how to provoke a healthful emulation among his scholars. He should be able to discriminate between those who require help and those who have the ability to help themselves, if they can be induced to develop the disposition. He thought the publication of honor rolls a questionable practice, and the results following of a doubtful tendency. He left the question of prizes open; if awarded at all great care must be exercised in doing it. As usual the various pleasing and practical points in the essay were reviewed in discussion upon it. Mr. Harrington who was prevented by circumstances from being present in person, sent his paper on "The Turks," which was read by Mr. Casselman. He alluded to the early history of that troublesome people, sketched the causes that led to their present degeneracy, and suggested plans by which the now deplorable condition of the Turkish Christian might be made as secure as that of the residents of other European countries. Mr. Talbot spoke of "The Teacher's work out of School." Attention was called to the necessary preparation to be made at home of the lessons to be taught in school; to the teacher's presence on the playground and the influence he should exert over the recreations indulged in there; to his position in society where he must uphold the dignity and command the respect due to the profession. The treasurer's financial report was read and adopted. Several questions of practical interest, asked through the medium of the question drawer, were satisfactorily answered. Messrs. I. R. Ault, and F. Anderson, of Aultsville, were voted honorary members, on account of services rendered the association. Officers for the current year were elected as follows: Mr. McNaughton, President; Mr. Talbot, Vice-President; Geo. Bigelow, Secretary-Treasurer; Messrs. Cook, Relyea, Casselman, Harrington, and Baker, Management Committee. It was decided to continue to furnish the CANADA SCHOOL JOURNAL to the members of the association, on the payment of the membership fee, and the usual club was formed. It was moved, seconded, and carried, that the next meeting be held in Cornwall, on the 4th and 5th October next. On the evening of Thursday a public lecture, under the auspices of the association, was delivered in the M. C. C., to an appreciative audience, including the teachers, by the Rev. W. Raney, of Aultsville. The lecturer in an impressive manner, referred to the duty of teachers, as an influential class in the community, taking the aggressive side in the temperance work, and laboring to educate those under their charge in true temperance principles. In a very forcible manner he showed that the question of legal prohibition was one that must be decided by the electors at the polls, and that each voter was personally responsible for the use he made of the franchise. Rev. Mr. Robinson expressed a wish to circulate the temperance pledge which was accordingly done, and a large number of signatures was obtained. The musical part of the audience enjoyed a rich treat in the singing which enlivened the proceedings, under the leadership of Mrs. Robinson. A vote of thanks was tendered the lecturer, for it was felt that his lecture had added much to the pleasure and profit derived from attendance at the association, also to the president who had so ably discharged the duties of the chair. The meeting was a most successful one whether viewed from an intellectual, moral, or social standpoint.

RENFREW.—The semi-annual meeting of the county of Renfrew teachers' association, was held at Arnprior, May 10th and 11th. The meeting was opened at ten o'clock a.m., H. L. Slack, Esq., taking the chair in the absence of the President. After the reading of the minutes, and transaction of routine business, the meeting adjourned till 2 p.m. In the afternoon, Mr. Barron, the vice-president, took the chair, and called upon Mr. Dunlop, teacher of S. S. No. 3, Pakenham, to read the opening paper on "How to Teach Spelling." The paper was a most thoughtful one, and reflected great credit on the writer. In it he pointed out many of the absurdities of our mode of spelling English words, and advocated the adoption of the Phonetic method in preference to that now in use. The next subject was introduced by Mr. Slack, on "School Culture." He believed that too much dependence was placed on text-books in our present method of education. More care should be taken in the physical training of children, as to posture in answering questions, studying, walking, sitting, &c. Courtesy and respect to each other, and to their teachers, parents, and other superiors, ought to be more earnestly insisted upon. In the evening, Prof. Dawson, head master of the Arnprior high school, delivered a lecture in the town hall on "Science and Skepticism." There was a large audience, who listened with close attention throughout. *Friday*—Mr. McDowell, head master of the Renfrew high school, gave a good practical exercise on the subject of "Arithmetic." He advocated teaching it mentally, and opposed following blindly the text-books. He discountenanced the giving to pupils such mathematical puzzles as are frequently found in our examination papers. Mr. McKay, head master model school, Renfrew, read a carefully prepared paper upon "Syntax." A lively criticism on this paper followed, carried on by Messrs. Barclay, Slack, Barron, and McNab, during which many of the niceties of the English language were discussed *pro* and *con*. At the close of this paper, Mr. A. D. Campbell distributed among the teachers present, sample copies of the CANADA SCHOOL JOURNAL, advising them at the same time to become subscribers for it. Mr. B. Sawyer, teacher of penmanship and book-keeping normal school, Ottawa, gave a class lesson in "Writing," showing his method of presenting the subject to a class of beginners. He strongly advocated the Spencerian system. Mr. A. D. Campbell considered this system unfit for practical purposes, it being too ornamental as generally taught, and that the attempt to teach it in our public schools by means of the present copy books is the real cause of the prevalence of bad writing. Mr. Dawson thought this system destroyed individuality in hand-writing. Mr. Slack said there was something wrong either with the system or mode of teaching it, as the writing in our school at present is far from what it ought to be. This paper was followed by a short address by Prof. Dawson, on the relation between High and Public Schools. He urged upon teachers to encourage their pupils to prepare themselves to take a high school course. The election of officers then took place with the following result: President, Wm. Altord; Vice-President, Miss H. Reynolds; Secretary-Treasurer, A. D. Campbell; Management Committee, Teachers of Renfrew village schools; Auditors, W. B. C. Barclay, and H. L. Slack.

PRESCOTT.—A meeting of the teachers of the county of Prescott, was held at the high school, Hawkesbury, on Friday and Saturday, the 1st and 2nd inst., at which a large number of the teachers of the county was present. Classes from the public school were in attendance and practical illustrations of the methods of teaching were given as follows: Mr. Summerby, I.P.S., explained before a second class, also before a third class, how language lessons might be taught in connection with the reading lessons. By judicious questioning he led the children to find out for themselves the uses of words in a sentence. He showed how grammar might be taught without burdening the mind with definitions, rules, &c., and how much time and labor might be saved to teachers and pupils on this important subject. Miss Hyde taught a third class a lesson in reading. She was careful to have the pupils thoroughly understand what they were reading. Mr. C. Gray, assistant master, model school, Vankleek Hill, taught an oral lesson in geography to a junior class. He awakened the curiosity of the pupils with regard to the shape of the earth. Mr. Summerby took a junior class and taught

them the A B C of arithmetic. He dwelt upon the necessity of thoroughness in the elementary rules. The youngsters were much interested with the lesson. J. W. McCutcheon, head master of Hawkesbury public school, gave his method of conducting a dictation lesson. Mr. J. W. Hay, head master of L'Original public school, taught a fourth class a lesson in history, and showed his method of taking up the subject in systematic order. Mr. McCutcheon drilled a fourth class in parsing, showing some of the difficulties met with in conducting a lesson in this subject. Mr. D. Marshall, head master, model school, Vankleek Hill, taught a lesson in map geography, in which he led the pupils to find out for themselves many things relating to the physical features of countries. His aim was not to tell the pupils anything they could find out for themselves, but to lead them from the known to the unknown, by judicious questioning. Each of the lessons was fully discussed by the teachers present immediately after it had been taught. The meeting then adjourned to meet again on Saturday, at 9:30 a.m. The annual school concert came off at the town hall, Hawkesbury, on Friday evening. It was a success every way. More than $70 were realized. On Saturday morning, Mr. J. A. Houston, B.A., head master high school, Hawkesbury, gave his method of commencing interest and per centage, with a class of beginners. He experimented with three pupils who had never studied the subject before, and by an oral lesson got them to solve mentally several questions in interest, without telling them anything or letting them know it was interest they were studying. He did the work by judicious questioning. Mr. E. B. Robinson, assistant master, high school, Hawkesbury, introduced the subject of drawing. As this subject is now obligatory for all classes in both high and public schools, considerable interest was manifested in the discussions which followed. After some discussion on the subject of uniform promotion examinations, it was moved by Mr. Marshall, seconded by Mr. McCutcheon, and resolved—That the county council be requested to grant a sum of money sufficient to pay the expense of printing papers for promotion examinations for the public schools of the united counties of Prescott and Russell, and in case the council refuse to grant the sum, that the same be taken from the funds of the association. The following are the officers of the association for the ensuing year: President, W. J. Summerby, I.P.S.; Vice-Presidents, J. A. Houston, and D. C. Little; Secretary-Treasurer, J. W. McCutcheon; Librarian, D. Marshall; Auditors, C. K. Gray, and J. H. May; Committee, Messrs. Kyle, Lefebure, Hay, and Misses Hyde, and Keough.

ONTARIO.—Held in the high school, Port Perry, May 25th and 26th. The attendance was large, and the proceedings were of great interest. In the absence of the president, Mr. G. H. Robinson, M.A., the chair was occupied during part of the morning session and the second day's meeting, by the vice-president, Mr. A Rae, H. M., model school, Port Perry. A well written paper on "Bible in Schools" was read by D. McBride, M.A., H. M. Port Perry high school, and it elicited a very spirited discussion in which Messrs. McBrien, I.P.S., Spence, and Noble took part. A motion by Mr. Spence, seconded by Mr. Bradshaw, that the programme be adhered to, was carried. Mr. Noble, principal of Uxbridge public school, took up Arithmetic as his subject, and advocated more mental work. His plans of teaching it were practical and judicious, but some ideas led to a smart discussion, participated in by Messrs. Spence, Bradshaw, Brown, and others. Mr. McBride moved a vote of thanks to Mr. Noble for his excellent address, which being seconded by the inspector, was carried unanimously. Mr. Robinson tendered his resignation as president in consequence of having left the profession. It was accepted, and subsequently he was elected honorary member of the association. On the motion of Mr. Spence, Messrs. J. Brown and Langdon were appointed auditors, and on the motion of Mr. Bride, Messrs. Brown and Rae were elected delegates to the provincial association. Dr. W. F. Eastwood, Zephyr, read a paper on Physiology and Hygiene, for which Mr. McBrien proposed the best thanks of the meeting, seconded by Mr. A. G. Henderson, and carried unanimously. Mrs. Swift sang "The Last Rose of Summer" very sweetly, accompanying herself on the organ. Mr. G. H. Robinson gave a lengthy address on "The Teacher's Literary Outfit," for which he received the thanks of the meeting. In the evening a large audience assembled in the town hall to hear Mr. James Hughes in his lecture on "School Room Humor." The chair was ably occupied by the county inspector, Mr. James McBrien. Continual laughter and bursts of applause testified the appreciation of the audience, and at the conclusion of the inimitable lecture a hearty vote of thanks was given to the talented gentleman, on the motion of Dr. Jones, seconded by Dr. Sangster. *Second day*—Mr. McBrien in the chair, and subsequently Mr. Rae. Mr. Hughes showed how Drawing may be taught in public schools by a teacher not trained to be an artist; and at the request of the convention, gave some excellent hints on "School Discipline.' The latter subject was discussed by Messrs. Noble, McBrien, and McMain, chiefly on modes of punishments. On the motion of Mr. McBrien, seconded by Mr. Spence, the best thanks of the association were unanimously accorded to Mr. Hughes for his very valuable assistance. A paper on Grammar was read by L. C. Smith, B.A., H.M., H.S., Oshawa, in which he strongly recommended less memorizing and more oral instruction. After the transaction of some routine business, the convention adjourned to meet next time in Port Perry at call of committee.

WEST LAMBTON.—A large number of teachers assembled in the model school, Sarnia, on Thursday and Friday 14th and 15th inst., to hold the regular half-yearly meeting of this association. The programme was opened by D. W. McQuesten reading as essay on "Writing." Mr. W. C. Carroll, B.A., next took up "Algebraic Factoring." In the discussions which followed, the views advanced were generally endorsed by the other teachers. Mr. A. A. Knight explained his method of teaching "Book-keeping" to a class, after which Walter Agnew exhibited his method of teaching "Decimals." Mr. A. A. Clapp gave an address on "Music;" Mr Sheppard, on teaching "Composition;" Mr. Ward, on "How to Teach Drawing;" while the programme was closed by Mr. Wm. Harris, and several other teachers, discussing "Tact in the School-room."

EAST GREY.—The semi-annual meeting of the East Grey teachers' association, was held in the town hall, Meaford, on Thursday and Friday, 17th and 18th inst. Some fifty or sixty teachers were present. The programme was not as complete as usual, and consequently the meeting was not so interesting as the meetings that have been heretofore held. Mr. Watson, of the *Mirror*, read an essay on "Journalism." Mr. McKinnon gave a short address on "History," which led to some discussion. Mr. McMillan, of the *Monitor*, discussed "Political Economy." Mr. Ball introduced the subject of "Corporal Punishment," and his remarks led to a lengthy debate in which several teachers took part. Mr. Cameron read an essay on the "Teaching Profession," and Mr. H. De LaMatter a paper on "Elocution. The entertainment, consisting of music, readings, and recitations, on the evening of Thursday was a decided success.

PRINCE EDWARD.—A very interesting and successful convention of the teachers of Prince Edward county, was held May 25th and 26th, when many important subjects relative to the best methods of teaching were thoroughly discussed. An excellent essay was read by Miss Nina Conger on "Labor Necessary to Success." "Drawing" was introduced by Messrs. Goodwin and Murray; "Writing" by Messrs. Kinney and Faul; and the subject of "History" by R. Dobson, B.A. Some excellent map-sketching was shown on the blackboard by R. B. Mastin, and well-timed remarks were made by W. J. Osborne on the subject of "School Discipline and Routine." G. D. Platt, B.A., strongly urged the desirability of opening and closing our schools with reading a portion of scripture and prayer, also instructing the pupils in patriotism, properly keeping the general register, etc. In the evening Prof. Bell gave a selection of readings in the town hall to a large and appreciative audience.

NORFOLK.—The teachers of Norfolk held their half yearly meeting on Friday and Saturday, 1st and 2nd ult. The minutes of last meeting having been read and adopted, Mr. T. W. Sampson, B.A., delivered an address well adapted to the present times, in which Classics are not held in the high estimation the advantage of their study demands. The subject of "Parsing and Analysis" was pleasingly elucidated by Mr. S. F. Passmore, M.A. Dr. Wadsworth read a paper on "Schools and School Trustees of California," which had been kindly sent by Mr. Jos. T. Carson of California. Mr. Horatio M. Courtlandt gave an account of the old style of education, which afforded permanent relief to those suffering from spasmodic "good old times" fever. Rev. A. Turnbull, B.A., delivered an instructive oration on "The Renaissance." The manner in which Dr. McLellan treated the subjects "Euclid," "The Teacher and his Work," and "Language and Language Lessons," impressed his hearers with many good thoughts which doubtless will produce good results, while his lecture on "National Education" was a master-piece of eloquence which instructed as well as entertained the attentive and appreciative audience.

LENNOX AND ADDINGTON.—The semi-annual meeting of the Lennox and Addington teachers' association, was held in the model school building in Napanee, May 26th and 16th. A large number of teachers was in attendance. The presence of Inspector McIntosh, of North Hastings, and Professor Wright, M.A., of Belleville high school, added greatly to the interest of the meeting. After appointing officers for the ensuing year, discussions on "School Books" and "Uniform Promotion Examinations" followed. Inspector Macintosh gave an address on the teaching of "Arithmetic," and was followed by Mr. Fessenden, on the same subject. Mr. Chase read a carefully prepared paper on "English" which was discussed afterwards by Messrs. Burrows, Macintosh, Chase, and others. The proceedings at the public meeting in the evening were opened with an exhibition of Calisthenics by a class of girls, led by Miss Fraser, which delighted the audience and showed that the time spent in school in the drill is not uselessly wasted. Mr. Burrows read an admirable paper on "Compulsory Education" which was afterwards discussed by Messrs. Aylsworth, Bowerman, Macintosh, and Tisdale. After a lengthy discussion the association decided that in view of the increasing attention paid in our schools to English Composition, it is desirable that the text books placed in the hands of pupils be of as high a literary character as possible, and that they may be subject to careful revision in order to remove any errors they may contain.

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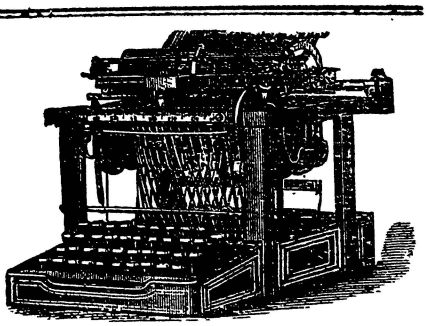

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The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

BLACKBOARD WORK.

Mr. Leitch observes, "This I take to be the golden rule in all teaching, viz., that in all school work children should do as much as possible for themselves—in other words *be trained.*" The test of good teaching is the ingenuity and success of the teacher in applying this many-sided principle so as to maintain constant activity and pleasing variety. Every rational method must aim at carrying out this principle so as to interest the learner and completely avoid monotony. The Kindergarten has this for foundation. In our ordinary schools the blackboard furnishes one of the simplest means of giving effect to the doctrine above enunciated. The laziest boy in school will *work* for the privilege of using the chalk ten minutes at the board. On a sultry afternoon during the last hour, when the attention flags and effective teaching seems no longer possible, let the teacher suddenly break the monotony with a cheerful school-song for five minutes, and then in rapid succession give out a variety of exercises to be done on the blackboards by as many pupils as can be accomodated at once.

"John Smith—Arithmetic page 99, question 6. Mary Johnston—The provinces of the Dominion with their capitals. Thomas Brown—List of the Angevin sovereigns with dates. Ella Morrison—Map of the Ottawa with its tributaries. Freddie Beatty—Avoirdupois Weight. Annie Jarvis—Names of the days of the week and of the months of the year. Johnnie Thompson—Draw the face of the clock showing the correct time. Katie Anderson—Write from memory three stanzes of 'Mary had a little lamb.' &c., &c. Time, fifteen minutes. All must resume their seats when the bell rings. Remaining part of class, take slates, write down in complete sentences what you think of any three of the black-board exercises. Five minutes will be given to hear your remarks."

Every pupil will instantly feel this stroke like a shock of electricity. The hum of real work resounds. There is a little bustle and noise. So much the better. A healthy noise is preferable to sleepy silence. At the end of half an hour all hands will be ready to go on with the usual programme, and will be grateful for the interruption. Next day the promise of work will secure industry more effectually than a solemn lecture on laziness, or a tirade of impatient scolding. It is folly to run the engine when the belt is off; we cannot teach without active attention; cold water will not make tea; the warmth of interest and pleasure is necessary to extract educative power from school exercises. Moral—Let every teacher agitate until every school has abundance of blackboards so placed that the smallest child in the school can reach them.

BOOKS FOR TEACHERS.

The shortest books are often the longest. All who wish for mastery of any subject must go to the masters and keep tolerably clear of compends and summaries. These are usually far more difficult than the larger works they attempt to abridge and condense. If a teacher really wishes to acquire the art of Socratic questioning so that he may have something practically useful let him read the translations of Xenophon's *Memorabilia* and Plato's *Dialogues*. They will cost little and enable him to hear Socratic teaching itself, instead of merely hearing about it at second-hand. The third book of Mill's *Logic* will give one a speedier entrance to the method of induction than any number of short abstracts in which the paucity of examples and illustrations increases in duplicate ratio the difficulty of grasping and assimilating. "We shorten our books, and lengthen the time required to read them," says a good authority. By compressing the matter we squeeze out the flavor and lose the spirit. What was originally interesting and pleasant becomes dry and difficult. History and literature furnish clear examples of this principle. Compare the arid dicta of Spalding with the sprightly pages of Taine, or the ordinary school history with the fascinating stories of Green, Froude, Knight, or Macaulay. As repositories of dry facts compends may be excellent schoolbooks, but they are not fit for teachers who need the power to clothe the skeleton, and cause dead facts to live and move before their pupils. So in the history of education also, it is cheaper and better to begin at the fountain head and read the larger books first. Abridgments will afterwards be useful for rapid review and will aid thorough digestion.

But if a teacher's circumstances prevent him from consulting the great works, then the lecture form should be preferred to formal analysis, as more likely to convey the real spirit and meaning. As many young teachers are seeking guidance in

their purchases at this season, we mention a few books which will be sure to turn out good investments: Russell's *Modern Europe*, Goldwin Smith's *Three English Statesmen*, Frank Bright's *History of England*, Fitch's *Lectures on Teaching*, Mathew Arnold's edition of Johnson's *Lives of the Poets*, Shaw's *English Literature*, Gladman's *School Methods*, Leitch's *Practical Educationists and their Systems of Teaching*, Mahaffy's *Old Greek Education*, Oscar Browning's *Educational Theories*, McCosh's *Intuitions of the Mind*, and Hopkins' *Outline Study of Man*.

Any teacher who will read such books as these we have mentioned will not soon stop growing; he will catch the step of the masters he walks with, and find his heart burning with their spirit and enthusiasm, while his contempories who stagnate in aimlessness will by and by be unable to understand how he comes to get such rapid promotion to lucrative posirions. Make your own compends is the best motto.

REPORTS OF CASES.

We have frequentiy asked teachers to send us facts from their experience to tell us how they have been successful with whispering, tardiness, low morals, stubbornness, disobedience, inattention, how they have managed peculiar and difficult cases. A few have responded, but only a few. We shall not make satisfactory progress in the art of teaching until our teachers *observe* with accuracy the results of their experience in the school-room and *report* them carefully to their professional journal as the physicians are doing. At present the accumulated experience of our most powerful teachers does not tell, as it easily might do towards the general elevation of the teaching profession. Brethren, begin to-day. If teachers would unite for the common good of their profession, they might very soon wield much more influence than at present. Let us take a leaf out of the book of the medical men and embrace solid union on professional matters, therein lies our power.

Truancy is often very difficult to overcome. The principal of a Western town in Ontario adopts the plan of taking bail for a boy's regular appearance at school, and it is reported to be fairly effective. He gets several pupils ta go security for their class-mate, and as it seems to us, the relation thus set must be highly beneficial to all the parties concerned. It is certainly a method in keeping with self government and the education fit to produce a free, self-governing race.

Some years ago the principal of a large public school in Ontario found a boy over whom both parents and teachers had lost all control. His father was excessively severe, and had punished him many times with no good result. The boy's violence, bad language, and utter defiance of authority were the terror of his class. He was treated on all hands as a hopeless criminal. The principal was asked to expel the boy, on the ground that his example was an injury to the school. Suspension had previously been tried without effect. The boy was sent for after school; the principal sat down beside him in a private room, and had a friendly conversation, in the course of which the boy acknowledged the truth of all the reports against him. The key to his sympathy was found through reference to the drowning of his little brother. He was led to detail the sad accident, and was deeply moved. The teacher determined to give him another trial, and ordered him to come and report himself regularly four times each day for the next three months. Accordingly at recess, at noon, at recess again, and after school each day James went to the principal, before going out. The report was simply a statement that he had behaved properly. At first these reports were often verified by a note from the teacher. At the end of three months, his conduct was so much improved that he was only required to report at noon and at four o'clock, and was sometimes invited to take a walk after school. In short, where violence had signally failed, kindness and sincerity were eminently successful.

We clip the following from the *N. E. Journal*. It is from the pen of Mrs. Eva Kellog:—

A brightlittle girl brought me a bunch of buttercups this morning, gathered in a flying country visit, and the involuntary "O—h!" as I caught them from her hand made the astonished children look up in wonder. One breath of their wild, earthly fragrance, and I was back again, a little girl, bending over the meadow-brook, gathering these yellow fringes on either side, as unconscious that I was studying from nature as that I was painting a picture in childhood's memories that would grow brighter every springtime of maturer life, till the longing for the old joyous associations of awakening spring would come to be a positive homesickness.

This one quick thought backward, and the next was for the city children before me. Poor things! thought I, you are being robbed every day of your natural birthright. Holding up this bunch of golden blossoms, I asked, "Who knows what these are? Who ever saw them growing?" Only a hesitating hand here and there in answer. I did not talk geography nor arithmetic in the next half-hour; nor I did not take the naturalness out of these little country visitors by calling them marsh-marigolds; nor did I call attention to the technical stamens and petals; but I just let those starved children leap over that low stone wall into the boggy meadow and gather them for themselves. They jumped that winding brook as they liked; they wandered away into firmer ground, and hunted for violets; they shouted over the Alder-tassels; they made discoveries everywhere. "But did you not bring them all back to a reproduction of this on their slates as a language-lesson?" asks some progressive utilitarian, who sees in this exercise,—an excellent one in its place,—only the fitting climax to every talking-lesson. No; it did not occur to me that

"Books in running brooks"

would suffer from the absence of this inevitable appendix. As well try to crystalize the subtle perfume of a bed of violets as to attempt to put on a slate the aroma of country spring-life which I tried to bring into that school-room. It is slightly difficult to reproduce soul-cultivation on a slate.

We take the following "cases" from Mr. David Maclure's articles in the *Teacher's Companion*, entitled "The School-master's Visitors":—

There comes the irate female. Heaven smile upon the teacher now! If he be lithe of limb and good at vaulting back

fences, his safety is possible, but if old or shut off from escape he's "*in for it.*" The aforesaid female is polite; she is doing her best to be polite and calm, though trembling in the attempt. She commences by cross-examining the teacher, but unfortunately forgets the sequence of logic and fact necessary to bring about a combination which (prepared beforehand) is to hopelessly entangle the teacher and cover him with the evidence of his own guilt. She fumbles with twitching fingers among the folds of her dress to find the lost thread of her arguments. Not finding it she becomes desperate, her thin film of etiquette evaporates; she stands as she was created, a silly and ill-tempered creature, totally unfit to be the custodian of an immortal soul (said immortal soul having, in the person of a youth named Edward, been reprimanded the day before for throwing a slate at a fellow-student in the primary department). She lifts her voice and utters her rhapsody in the treble clef, her vocabulary being somewhat limited, and rarely classic, she pours forth her billingsgate with vehement reiteration, she is in her element now and she revels in it; so with abuse and threats, she hurls her last volley at the devoted victim, and leaves *en route* for all the trustees, superintendents, and school boards in the country, who "will hear of this, sir; will hear of it, I say, before the blessed day is ended."

Comes the Hibernian visitor with the marks of his daily toil upon him, and his short, black pipe, which he endeavors to conceal in his horny hand, comes and says in his richest brogue, "I'll tell ye what ye'll do, young master. Ye'll take a good stout stick, d'ye hear me, and belt it into him. Shure and if ye don't do that same he'll have the best av ye; but indade, young master, I'll lather the bye meeself this night, plaze God, if I can lay me hands on him, and bedad! I'll get hould av him after he's in bed, d'ye hear, and good day to ye." And so he goes, and I picture a novel and exciting chamber scene, full of more horrors to one poor youth than even those that befell the luckless Desdemona at the hands of the Moor.

Comes the stolid German visitor. I hear his heavy boots on the stairs, and he salutes me in a loud, gruff voice, touching his hat in lumbering politeness. "I shust comed to say somedings aboud dot poy what is mine, dot Yacob. Well, dot poy comed to me lasdt night, und he say to me dot he vas keeped in after dis school vas oud, and all for nottings. For notting, I say. 'Vell,' he say, 'for nottings, but shust because I have not learned my lessons all day.' And did dot teacher keep you in for dot? I say. 'Yes, fadder,' he say. What is dot you say, Yacob? Did dot teacher keep my poy in for dot? My good gracious, is dot so? Vell, ve vill see aboud dot. Shust you go oud und got me dot horsewhip. So Yacob, he bring me dot whip, und I say, Now, my son, I tink dot teacher did not right, und I will shust begin where he left off. So I gif him some lickings mit dot whip, und I tinks he will not tell me some more stories aboud dot teacher pooty quick already. Hey? what you tink?"

PEDAGOGY AT THE UNIVERSITIES.

The Schoolmaster says: "The signs of the times are strangely misleading if they do not indicate a rapid approach to the days when the Universities will have a close connection with the certification of teachers. It is no new thing to insist upon the advantage of a university training for the young teacher.....that something more is desirable than is now provided by the training colleges for the great majority of the future teachers of the United Kingdom. To a certain extent, the training college students of Scotland are allowed to have the advantage of a university career. Teachers themselves are alive to the necessity for such a double preparation, and frequently of late the strong desire has been publicly proclaimed. It is not mere scholarship alone that is wanted, nor the ability to take such degrees as those of London University. It is the self-measurement with the inevitable culture that comes from contact with those who are preparing for various walks in life. By widening a teacher's knowledge of men, especially of young men preparing for the professions, the general work of education must be improved."

The *Scotsman* has the following:—"Hitherto, the difficulty in the way of this has been that the requirements of the ordinary Arts' Degree are both wider and higher than are needed in cases of teachers who are to take charge of small schools in remote parts of the country; hence the expedient adopted of allowing only certain Normal students to take the Univessity course. There is an obvious flaw in this argument. Schoolmasters, like ministers, who begin their career in small country parishes, hope, or ought to hope, to be promoted one day to important and lucrative posts in large towns. It is a mistake to educate any man for the beginning only of his life-work. If that were done in the case of clergymen or of physicians, these professions would very soon decline. But whatever force there is in the objection will most probably disappear when the Arts' curriculum in the Universities is remodelled, and the system of options introduced into it. Then there is no reason why the degree of M.A. should not be regarded in one of its aspects—as it was originally in its essential aspect—as an education degree. When the reform has been effected, every schoolmaster should be required to take the degree of M.A."

We condense the following from the *Wisconsin Journal of Education*:—"It is now nearly four years since this course of instruction (in Pedagogics) was begun. The chair of "the Science and Art of Teaching" was established (in the University of Michigan) June, 1879. The University had for years been supplying the higher positions in the public school service with teachers. As a rule these teachers assumed the responsibilities of important positions with no conscious preparation and it was conceived a duty owing to the State to furnish prospective teachers with an opportunity to learn at least the theory of teaching and of school management. There is no "Normal department" in the University of Michigan. There are merely courses of instruction in the science and art of teaching, just as there are in science and in mathematics. What is called a "Teacher's Diploma" is given under the following requirements: (1) The pupil must have taken at least the bachelor's degree; (2) must have taken a teacher's course in Latin, Greek, or in some other subject; and (3) must have taken at least one of the longer courses in the science and the art of teaching. But this diploma has no legal value whatever. It merely certifies to the accomplishment of certain work. It exempts from no examination. There has never been a thought of interfering, in the least degree, with the work of the State Normal School. As a matter of fact, there has not been the slightest effect injurious to the Normal School through the introduction

of courses in pedagogics into the University. At their best these two schools can do but a fraction of the service the State requires in the education of teachers." Prof. W. H. Payne has been the lecturer.

Most of our readers are aware that in 1879 the Senate of the University of Cambridge determined to take measures to encourage among those who intended to adopt the profession of teaching the study of the principles and practice of their art. A "Teachers' Training Syndicate" was appointed, which shortly afterwards issued a scheme of examination in the history, the theory, and the practice of Education, and under this scheme the first examination was held in June, 1880. This Syndicate also provided courses of lectures. The first course was given by the Rev. R. H. Quick on the History of Education—and now forms a popular treatise on the subject. The following term, Mr. James Ward, Fellow of Trinity College, lectured on Mental Science in its special relation to teaching. The third course was given by J. G. Fitch, M.A., one of her Majesty's Inspectors of Schools, and related mainly to the practical aspects of the schoolmaster's work. The course is still continued, but we have not information up to date. Harvard has also established similar lectures.

These statements show what is doing elsewhere. We are in the same current, and have for some years been drifting towards the University as the centre at which our higher teachers must receive much of their special training. The Education Department already accepts certain honor courses as equivalents for the non-professional examinations for grades A and B of the first-class. The University has a high course in psychology, and if a special course in the history of educational effort and in methods were added, the Department would not need to establish the proposed lectures for first-class teachers. Such a course at the University would be attended by many undergraduates who intend to become teachers, by many non-matriculated students who are candidates for first-class certificates, and many of both these classes would almost certainly be ladies. The other departments in the University, as mathematics, science, English, etc., would also be utilized by the students. The sympathy of members, the contact of intellect, and the University library would be powerful educative factors. We hope to see the Provincial University follow the lead of *Cambridge, St. Andrew's, John Hopkins, Harvard*, and *Michigan* in establishing a course of lectures for higher teachers. We feel certain the Government would readily grant the money necessary to secure this great national benefit, which would communicate an impulse to higher education throughout the entire Dominion.

A Story about Hawthorne.—A charming story of Hawthorne was told told to Mr. Conway by an itnimate friend of the novelist. One wintry day Hawthorne received at his office notification that his services would no longer be required. With heaviness of heart he repaired to his humble home. His young wife recognizes the change and stands waiting for the silence to be broken. At length he falters, "I am removed from office." Then she leaves the room; she returns with fuel and kindles a bright fire with her own hands; next she brings pen, paper, ink, and sets them beside him. Then she touches the sad man on the shoulder, and, as he turns to the beaming face, says "Now you can write your book." The cloud cleared away. The lost office looked like a cage from which he had escaped. "The Scarlet Letter" was written, and a marvellous success rewarded the author and his stout-hearted wife.—*Philadelphia Bulletin.*

Mathematical Department.

ADMISSION TO HIGH SCHOOLS.—June, 1883.

ARITHMETIC.

Time—Two Hours. 10 *Marks for each Question.*

1. What is the object of Division? Write down the relation connecting the Divisor, Dividend, Quotient, and Remainder.

Divide one hundred and eight billion, four hundred and nineteen million, seven hundred and sixteen thousand and one, by eighteen million, seven hundred and forty-eight thousand, and five.

2. Find by "casting out nines" whether the following is correct: $349751 \times 28637 = 10015819397$.

Find the weight of 500,000 bricks at 4lbs. 2oz. each, and the cost—in dollars and cents—at 27*s.* 6*d.* each, allowing 4*s.* 2*d.* to make a dollar.

3. A merchant received from England the following invoice in sterling:—

375 tons iron plates, at £8 15*s.* 6*d.*
107½ tons bar iron, at £11 14*s.*
10 tons bulb iron, at £10 10*s.*
17 tons T iron, at £15 10*s.*
48 tons steel, at £18 7*s.* 6*d.*
15 tons rivets, at £11 1*s.*

Find the amount of this invoice in Canadian currency, allowing the shilling sterling to be equal to 24⅓ cents.

4. At $1.75 per rod, what will it cost to fence a piece of land 63·5 rods long and 27·75 rods wide?

5. Simplify $1 - \frac{1}{6} + \frac{1}{24} - \frac{61}{5040} + \frac{277}{72576}$; and $\dfrac{4\frac{7}{10} + 5\cdot\dot{8}\dot{1} - 2\cdot5}{4\frac{7}{10} \text{ of } 32 \text{ of } \cdot\dot{4}\dot{5}}$

6. Gunpowder is composed of nitre, charcoal, and sulphur, in the proportion of 15, 3, and 2. A certain quantity of gunpowder is known to contoin 20 cwt. of charcoal; find its weight, and also the weight of nitre, and of sulphur it contains.

7. Bought 360 gallons of wine at $2.60 a gallon; paid for carriage $17.20, and for duties $86.50. If $\frac{3}{20}$ of it be lost by leakage, at what price must the remainder be sold to gain $50 on the whole transaction?

8. Find the interest on a note for $257.81, dated January 3rd, 1883, and paid April 6th, 1883, at 8 per cent. per annum.

9. The length of a second's pendulum is 39·37079 inches; if 64 French metres are equal to 70 yards, by what decimal of an inch will the length of a second's pendulum differ from one metre?

10. At what times between 4 and 5 o'clock are the hands of a clock (1) coincident, (2) at right angles?

INTERMEDIATE AND THIRD CLASS.—July, 1883.

ARITHMETIC.

Time—One Hour and a Half.

(*Eighty per cent. of this paper will be considered a maximum.*)

1. Add together $\frac{3}{7}$ of £13, $\frac{1}{3}$ of $\frac{1}{2\frac{4}{5}}$ of $\frac{3}{5}$ of £2, 12*s.*, and $\frac{5}{7}$ of 9*d.*

Reduce 13*s.* 4½*d.* to the decimal of 19*s.* 6*d.*

2. Find by Practice the value of 8596 lbs. at £10 18*s.* 7½*d.* each.

3. A person borrows $500 on April 10th, and on June 22nd pays his debt with $510.20. At what rate per cent. per annum was he charged interest?

4. A man having a certain sum of money to invest has an opportunity of purchasing 7 per cent. stock at 95, but delays until it has risen to 110. What per cent. is his income less than if he had purchased at the first price?

5. At an international exhibition one country was awarded 5 gold, 9 silver, and 11 bronze medals; and another 4 gold, 15 silver, and 10 bronze. Find a ratio of values for such medals that these countries may be regarded as equally fortunate.

6. In a box there is a certain number of sovereigns, three times as many guineas, and twice as many marks (13*s.* 4*d.*) as guineas. The entire amount in the box is £815. How many coins of each kind are there?

7. Find when first after 2 o'clock the hour and minute hands of a clock make an angle of 60 degrees with each other.

8. For each of three succeeding months the population of a North west town rose 50 per cent.; and at the end of the third month was 2,700. What was the population at the beginning of the time?

9. Leap year is omitted once in every century, except those centuries whose number is divisible by 4. What is the average length of a year?

10. A cube is formed of a certain number of pounds avoirdupois of a substance, and the same number of pounds Troy of the same substance. What proportion will a side of the cube bear to a side of a cube formed of the same number of pounds as before, but all avoirdupois? (175 lbs. Troy = 144 lbs. avoirdupois.)

Values—1, 10; 2, 6; 3, 8; 4, 10; 5, 10; 6, 10; 7, 12; 8, 12; 9, 10; 10, 12.

ALGEBRA.

TIME—TWO HOURS.

(*Eighty per cent. of this paper will be considered a maximum.*)

1. Divide (1). $(a-b)c^3+(b-c)a^3+(c-a)b^3$ by $(a-b)(b-c)(c-a)$.

(2). $\frac{x^2+y^2}{x^3y^2}-\frac{x^2+y^2}{x^2y^3}$ by $\frac{1}{x}-\frac{1}{y}$.

2. What must be the values of a, b, and c that x^3+ax^2+bx+c may have $x-1$, $x-2$, and $x-3$, all as factors?

3. Find the H.C.F. of—

(1). $3x^4-4x^3+1$ and $4x^4-5x^3-x^2+x+1$.

(2). $8x^3-y^3+27z^3+18xyz$ and $4x^2+12xz+9z^2-y^2$.

4. Simplify—

(1). $\left(\frac{4x^2}{y^2}-1\right)\left(\frac{2x}{2x-y}-1\right)+\left(\frac{8x^3}{y^3}-1\right)\left(\frac{4x^2+2xy}{4x^2+2xy+y^2}-1\right)$.

(2). $\frac{x^3+(a+b)x^2+(ab+1)x+b}{bx^3+(ab+1)x^2+(a+b)x+1}$.

5. Find a value of x that will make $\frac{ac+bd+ad+bc}{x-3c+2d}$ independent of c and d.

6. (1). If $a+b+c=0$, then

$$\frac{1}{a^2}+\frac{1}{b^2}+\frac{1}{c^2}=\left\{\frac{1}{a}+\frac{1}{b}+\frac{1}{c}\right\}^2.$$

(2). If $x=a^2+b^2+c^2$ and $y=ab+bc+ca$, then $x^3+2y^3-3xy^2=(a^3+b^3+c^3-3abc)^2$.

(3). If $2a=y+z$, $2b=z+x$, $2c=x+y$, express $(a+b+c)^3-2(a+b+c)(a^2+b^2+c^2)$ in terms of x, y, and z.

7. Find a value of a which will make the quantities

$$\frac{(a+b)(a+c)}{a+b+c} \text{ and } \frac{(a+c)(a+d)}{a+c+d} \text{ equal to one another.}$$

8. Solve the equations—

(1). $\sqrt{x+3}+\sqrt{x+2}=5$.

(2). $\frac{5-x}{3}+\frac{5-2x}{4}+\frac{x+1}{3}-\frac{2+5x}{2}=0$.

(3). $(x+a+b)(c+d)=(x+c+d)(a+b)$, where $c+d$ is not equal to $a+b$.

9. One side of a right angled triangle exceeds the other by 3 ft., neither being the hypothonuse, and its area is 18 sq. feet. What are the sides?

10. A cistern with vertical sides is h feet deep. Water is carried away from it by one pipe $\frac{5}{6}$ as fast as it is supplied by another. Find at what point in the side the former pipe must be inserted that the cistern may fill in twice the time it would did water not flow from it atall.

Values—1 (1) 6, (2) 4; 2, 6; 3 (1) 5, (2) 7; 4 (1) 5, (2) 6; 6 (1) 6, (2) 7, (3) 5; 7, 6; 8 (1) 6, (2) 5, (3) 5; 9, 7; 10, 8.

EUCLID.

TIME—TWO HOURS.

Algebraical proofs will be allowed for 6, 7, *and* 8.

1. State the differences between a square, an oblong, a rhombus, and a rhomboid.

What name employed in Euclid will apply to all of them? What to the first two only?

2. Upon the same base, and upon the same side of it, there cannot be two triangles having their sides terminated in one extremity of the base equal to one another, and also those terminated in the other extremity.

3. Equal triangles upon the same base and upon the same side of it are between the same parallels.

4. To find a point within a triangle such that if lines be drawn from it to the angular points the three triangles thus formed shall be equal.

5. The straight lines drawn through the points of bisection of two sides of a triangle is parallel to the third side.

6. If a straight line be divided equally and also unequally, the rectangle contained by the unequal parts is less than the square upon one of the equal parts, by the squsre upon the line between the points of division.

7. Show that the proposition of question 6 includes the following, viz.:—The rectangle under the tum and difference of two lines is equal to the difference of the squares upon the lines.

8. Of all rectangles with the same perimeter the square has the greatest area.

Values—1, 8+2+2; 2, 14; 3, 12; 4, 12; 5, 12; 6, 14; 7, 12; 8, 12.

NATURAL PHILOSOPHY.

TIME—TWO HOURS.

1. How are forces measured? What is the unit of force commonly adopted in statics? What general relation is there between the latitude of any place and the magnitude of the statical unit of force for that place?

2. What is meant by saying that two or more given forces exactly balance each other?

If a body moving with constant velocity in a straight line be brought under the action of two forces which exactly balance each other, what will be the result with regard to the motion of the body?

3. Explain how a force may be *completely* represented by a straight line.

Draw a diagram to represent the frame and the forces acting thereon in the following:—A square frame $ABCD$, whose sides are each 3 ft. long, is under the action of four forces; 1st, a force of 3 lbs. acting at A, and from A towards C; 2nd, a force of 3 lbs. acting at B, in the direction from D to B; 3rd, a force of 6 lbs. acting at C, and from C towards D; 4th, a force of 5 lbs. acting at D, in a line parallel to CA, and in the direction from C to A.

4. State the parallelogram of forces.

Two forces of 10 units each act in lines which meet in a point, and the angle between their directions is 120°. Show that they may be balanced by two forces of 5 units each, and determine the directions in which these must act.

5. State the principle of the lever.

Two boys playing at see-saw find they balance each other standing on the ends of a uniform plank laid across a log, when the arms of their see-saw are 7 ft. and 8 ft. respectively. Find the weight of the plank, the weights of the boys being 75 lbs. and 90 lbs. respectively.

6. What is meant by the specific gravity of a body?

A cubic foot of anthracite coal which weighs 100 lbs. in the air is found to weigh only 45 lbs. 2 oz. in a certain specimen of petroleum. Find the specific gravity of the petroleum, assuming that a cubic foot of water weighs 1,000 oz.

7. Describe the common mercury barometer and state the principles of its action.

Find the greatest height to which water will rise in a common suction pump when the mercury in the barometer stands at 30 in., the specific gravity of mercury being 13·6.

Values—1, 10; 2, 10; 3, 20; 4, 15; 5, 15; 6, 25; 7, 15.

MENTAL ARITHMETIC.

TIME—THIRTY MINUTES.

1. A hall-way is 90 inches wide, and takes 25 sq. yds. of oilcloth to cover it. How long is it?

2. A gentleman travels from Toronto to Montreal and back. He goes at an average rate of 33 miles per hour and returns at an average of 30 miles per hour, and he finds that he occupied one hour longer in returning than in going. Find the distance from Toronto to Montreal.

3. A can do a piece of work in 7 days, and B can do it in 8 days. A works at it for $2\frac{1}{2}$ days, and B works at it for 3 days. C then finishes it in $3\frac{3}{4}$ days. In how many days could C have done the whole work alone?

4. By selling an article for \$21 I would *lose* $12\frac{1}{2}$ %. At what should I sell it in order to *gain* $12\frac{1}{2}$ %?

5. A merchant marked his goods at an advance of 60 % on cost. He gave one of his customers a discount of 15 % off the marked price. What was his gain on \$6.80 received from that customer?

6. How much stock must I sell out of the $3\frac{1}{2}$ per cents., at 84, to enable me to buy \$7,700 4 per cent. stock, the value of the stocks being proportional to the dividends they pay?

Values—1, 16; 2, 16; 3, 17; 4, 17; 5, 17; 6, 17.

SECOND-CLASS TEACHERS—July, 1883.

NATURAL PHILOSOPHY.

TIME—TWO HOURS.

1. Explain what is meant by the statement 'The body A is at rest relative to the body B.' Give illustrations.

If a body in motion be acted upon by three forces in equilibrium, what will be the result with respect to the motion of the body?

2. Explain the geometrical representation of forces.

Two forces acting in lines which meet in a point are represented by the straight lines AB, AC; show that their resultant is represented by 2 AD, where D is the point of bisection of the straight line BC.

Four forces acting in lines which meet in a point are represented by the straight lines AC, BC, AD, BD; show that their resultant is represented by 4 EF, where E and F are the respective points of bisection of the diagonals AB, CD of the quadrilateral $ACBD$.

3. What are the conditions of equilibrium of three forces—

1st, if two of them are parallel to one another;

2nd, if there are two not parallel to one another?

A body is pulled N., S., E. and W. by strings whose directions meet in a point, the forces of tension along the strings being equal to 26, 110, 75 and 88 lbs. weight respectively. Show that these forces may be balanced by a force of 85 lbs. weight in the proper direction and by no other single force whatever.

4. What is meant by the moment of a force about a given point? How is the moment of a force about a point measured? State the principle of moments.

A straight pole 12 ft. long and weighing 40 lbs. balances, when unweighted, about a point 5 ft. from one end. When loaded with 2 lbs. at this end and 10 lbs. at the other end, at what point must it be supported in order to balance?

5. Find the relation between the power and the weight in a system of pulleys in which one cord passes round all the pulleys and has its different portions parallel, neglecting friction and the rigidity of the cord, but taking account of the weight of the pulleys.

In such a system what power will sustain a weight (including the lower sheaf of pulleys) of 945 lbs., if the number of cords at the lower block be seven?

6. Four pine planks (specific gravity 48) 16 feet long, 12 inches wide and $2\frac{1}{2}$ inches thick, are bound together to form a raft. Find the greatest load the raft will bear without sinking, granted that a cubic foot of water weighs 1,000 oz.

7. Describe the common pump and explain the principe of its action.

Values—1, 10; 2, 20; 3, 25; 4, 20; 5, 15; 6, 10; 7, 10.

EUCLID.

TIME—TWO HOURS.

1. With three given straight lines only one triangle can be formed. What is the character of the triangle formed by the lines whose lengths are given by $\sqrt{27}$, $\sqrt{48}$ and $\sqrt{125}$?

2. If one side of a triangle be produced the exterior angle is equal to the sum of the two opposite interier angles.

ABC is an isosceles triangle, having the equal angles at B and C. BF and CF are drawn bisecting the angles B and C and intersecting in F.

Show that the angle BFC is equal to the sum of the vertical angle and one of the basal angles.

3. The sum of the interior angles of any reclilineal figure is $2(n-2)$ right angles, where n denotes the number of sides.

Prove this and examine it if be true when the figure has one reentrant angle.

4. ABC is a triangle, and AD bisects the base BC in D. Show that the sum of the squares upon the two sides is equal to twice the square upon half the base, together with twice the square upon the bisecting line.

$KLMN$ is a square, O the point of intersection of its diagonals, and P any point whatever.

$PK^2+PL^2+PM^2+PN^2$ is greater than four times PO^2 by the square upon the diagonal.

5. In any triangle the square upon the side subtending an acute angle is less than the squares upon the sides containing the angle by twice the retangle contained by one of those sides and the line intercepted between the acute angle and the perpendicular let fall upon it from the opposite angle. (Euc. II. 13).

6. In the triangle ABC, the perpendiculars BD and CE from B and C upon the opposite sides intersect in F. Show that the retangle contained by BF and BD is equal to that contained by BE and BA.

7. In Euc. II. 11, find a point H in AB produced so that $AB \cdot BH$ is equal to the square upon AH.

Values—1, 10+8; 2, 8+8; 3, 8+8; 4, 10+10; 5, 10; 6, 10; 7, 10.

ARITHMETIC.

TIME—TWO HOURS.

1. *Prove* that $\frac{1}{4}$ of $\frac{8}{7}=\frac{8}{28}$.

Simplify

$(2\frac{2}{7}$ of $3\frac{1}{16})+\frac{4}{9}-(1\frac{1}{3}$ of $1\frac{5}{16})-(1\frac{3}{4}$ of $4\frac{1}{7}$ of $\frac{3}{14})$.

2. The pendulum of one clock makes 24 beats in 26″; that of another 36 beats in 40″. If they start at the same time, when first will the beats occur together?

3. A can do as much work in 4 hours as B in 6; and B in $3\frac{1}{2}$ as C in 5. A does half a certain piece of work in 12 hours; in what time can it be finished by B and C, working separately equal times, and C succeeding B?

4. A note for \$500, made March 9th at three months, is discounted April 11th, at 8 per cent. What is received for the note? (True discount).

5. The unclaimed dividends on a certain amount of stock which pays 6 per cent. per annum amounted in 3 years to \$1152. The stock was sold at a discount of $12\frac{1}{2}$ per cent. on its par value. What sum was realized?

6. Teas at 3*s.* 6*d.*, 4*s.* and 6*d.* a pound are mixed to produce a tea worth 5*s.* a pound. What is the least integral number of pounds that the mixture can contain?

7. A man buys 150 lbs. of sugar, and after selling 100 lbs. finds he has been parting with it at a loss of 5 per cent. At what rate per cent. advance on the cost must he sell the remaining 50 lbs. that he may gain 10 per cent. on the entire transaction?

8. Each member of a pedestrian club walks as many miles as there are members in the club, and the expense of the trip is for each member as many pence per mile as there are members in the club. The total expense is £50 13*s.* 11*d.* How many members are there?

9. The hour, minute and second hands of a watch are on concentric axes. When first, after 12 o'clock will the direction of the second hand produced backwards bisect the angle between the hour and the minute hands?

Values—1, 7+6; 2, 11; 3, 11; 4, 10; 5, 10; 6, 10; 7, 11; 8, 11; 9, 13.

ALGEBRA.

TIME—TWO HOURS.

1. (1). If $x^2-mx+1=0$, express

$\frac{1}{x^2}(x^4-3x^3+2x^2-3x+1)$ as a function of m.

(2). If $x+y=m$, and $xy=n$, express x^3+y^3, and $\frac{1}{x^2}+\frac{1}{y^2}$ in terms of m and n.

2. If $cx+sy=\sqrt{a^2c^2+b^2s^2}$,

$-sx+cy=\sqrt{a^2s^2+b^2c^2}$,

and $c^2+s^2=1$,

then $x^2+y^2=a^2+b^2$.

3. If a, b be integers, and $\frac{a}{b}=\frac{3}{4}$, then a is a multiple of 3, and b is the same multiple of 4.

4. (1). Simplify. $\sqrt{x^2-y^2}\sqrt{x^3+y^3}\sqrt{x^3-y^3}\sqrt{x^4+x^2y^2+y^4}$.

(2). Extract the square root of

$$\frac{x^2}{9y^2}+\frac{2x}{3y}+\frac{11}{9}+\frac{2y}{3x}+\frac{y^2}{9x^2}.$$

5. Solve the equations

(1). $x+\frac{24}{3x+1}=2x-3\frac{1}{2}$.

(2). $6x+\sqrt{x}=2$.

6. Solve the equations

(1). $x-y=3$, $xy=18$.

(2). $x^2-xy=3$, $x^2-y^2=5$.

(3). $x-y=a$, $y-z=b$, $z+x=c$.

7. (1). Solve the equation $ax^2+bx+c=0$, and interpret your result according as $a=0$, or $b=0$, or $a=b=0$.

(2). If $a+b+c=0$, find values of x that will satisfy

$$\frac{a}{x+b}+\frac{b}{x+c}+\frac{c}{x+d}=0.$$

8. If α, β be roots of $ax^2+bx+c=0$, and $\alpha+\beta$, $\alpha-\beta$ roots of $a'x^2+b'x+c'=0$, shew that $ab'^2-2a'bb'+4a'^2c=0$.

9. The sides of a box are all retangles, and the areas of the unequal sides are $7\frac{1}{2}$, 15 and $4\frac{1}{2}$. Find the lengths of the sides.

Special Articles.

"A COLLEGE FETICH." *

BY DAVID ALLISON, LL.D.

The author of this address cherished "a purpose." He "had something which 'he' much wanted to say." He came before his hearers—the Phi Beta Kappa Chapter of Harvard University—with "a message," and assuredly no lack of intense expression and moral enthusiasm characterizes this message.

The "College Fetich" is the deference still paid to classical studies in the chief universities of the United States, and by a natural consequence in the academical institutions which supply those colleges with students. The prevailing system of education in the leading New England University is represented and attacked by one of its most famous graduates as "a superstition."

I am strongly of the opinion that the address owes its chief value to the stirring tones in which it calls attention to pending educational problems of great moment, rather than to any special contribution made by it to the solution of those problems.

In the first place the historical argument—the appeal to facts—which runs through a considerable portion of the address seems to me to completely break down; or if not that, to prove a conclusion too insignificant to be taken into account in an important educational controversy. Mr. Adams, with all his well-developed pride of ancestry, undertakes to illustrate from the history of his own family the folly of making classical study the back-bone of academic and collegiate curricula. How does he illustrate this? Four generations of Adamses have graduated at Harvard, Mr. Adams himself representing the fourth. He graduated in 1856; his great-grandfather, John Adams, in 1755. That great-grandfather played a leading part in a mighty revolution, became first, Vice-President, and then President, of the United States, and died on the anniversary of his country's independence one of the most conspicuous and honored of men. His son, John Quincy Adams, "the old man eloquent" of the American Congress, the steadfast friend of human freedom, so far overcame the incubus of his classical training as to rise to the same great elevation, the presidency of the United States. The Adams of the third generation, Charles Francis, senior, also contrived to acquire some distinction, particularly as a refined and *educated* statesman. Not to speak of domestic positions of honor and influence, he was chosen to represent his country at a most critical period at the Court of Great Britain, and, again, upon the Board of International Arbitration at Geneva. Mr. Adams speaks modestly of his own achievements, not from pure modesty, perhaps, so much as from a desire to help his argument. Yet we well know that he and his three brothers, who are also Harvard men, have made no little stir in American social and political life; that they have an unmistakable stamp of scholarship upon them, that they speak well and write well, that they take an interest in useful reforms, and on most subjects reason logically. One is anxious to know how Mr. Adams proposes to press this phenomenal family history—four successive generations keeping themselves in the front and at the top amid the frictions and changes of a hundred and thirty years—into the service of his argument. The "Fetich," and the evil consequences of worshipping it, are not *in sight* to ordinary vision. There is, of course, always more or less uncertainty, and liability to error, in inferring from success in after life the excellence of early methods of instruction. It is always open to the proverbial doubter to say, "Oh, he would have been still more successful had he been educated according to *my* theory." But in the facts of so extended and varied an experience as this before us, we seem to have the basis of a reasonably sure induction. And that induction certainly does not lead us to the "Fetich." What, then, are the counterbalancing facts as yet hidden from us? As to his *ancestors*. Simply these, that the elder Adams, when acting as representative at Paris of the struggling American colonies, must have found his ignorance of French inconvenient; while John Quincy and Charles Francis, senior, happily possessing a knowledge of that language, though not obtained at Harvard, were enabled to render their country very effective diplomatic services at the Hague, at Ghent, at Paris, and at Geneva. As for *himself*, Mr. Adams tells us that his *Alma Mater*, bunging him up on Latin and Greek, sent him out "as a cavalry officer into the war of the rebellion equipped with shields and swords and javelins intead of repeating-rifles." When, at the conclusion of the war, he devoted himself to special studies and efforts "in connection with the development of the railroad system," he found himself "incapacitated from properly developing his (my) specialty by the sins of omission and commission incident to his (my) college training." In short, he stands before us "a sacrifice to the Fetich," but by no means does he propose to be "a *silent* sacrifice." A failure, as also his logic requires all his fathers to have been, he is bound to put the responsibility where it properly belongs, "at the door of his (my) preparatory and college education." This appeal to fact must be left to produce its own impression on the reader's mind. But I may draw attention to two points worthy of notice. In the first place, Mr. Adams should know that it is beyond the power of any American University to bestow that *practical use* of the European languages which may have been advantageously possessed by several of his ancestors, while a little inquiry would have convinced him that Harvard now makes admirable provision for teaching the languages of modern Europe, so far as *reading and writing them* are concerned—the only knowledge of them which can be said to be necessary for scientific purposes, such as "the development of railroads." Secondly, he altogether fails to show how he would have been less "a sacrifice to the Fetich" in respect to his "specialty" had the fates compelled him to study *modern* rather than *classical* literature. Modern

* A COLLEGE FETICH: An address delivered before the Harvard Chapter of the Fraternity of the Phi Beta Kappa, by Charles Francis Adams, LL., 1883.

literature may be as serviceable for *literary* purposes as ancient, but it does just as little as the latter towards "developing a specialty" for railroads.

The severe condemnation pronounced upon the methods of classical instruction pursued at Harvard in Mr. Adams' undergraduate days is in no way relevant to his main argument. The fact that science and the modern languages are often wretchedly taught proves nothing as against the propriety of including those subjects in a university course. The support on which he bases his insinuation, that even now things are not much better, strikes one as suspiciously slender. That support is the casual remark of a Harvard professor dropped one day before dinner to the effect that he found it easier to memorize than to observe and infer! If the prevailing characteristic of the classical methods at Harvard twenty-seven years ago was, as Mr. Adams alleges, "limp superficiality," I must venture to think that there has been great improvement since then. Harvard classics have at their head one of the foremost scholars of the age. The author of "THE SYNTAX OF THE MOODS AND TENSES OF THE GREEK VERB" is not just the man from whom we could expect "limp superficiality."

Other points of minor criticism might be found. Mr. Adams redicules the idea that the study in youth of a language whose very characters he has now forgotten could have contributed to the growth and strengthening of his mental powers. However it may have been in his particular case, he consequently goes too far when he denounces as "cant" the theory of all educators that certain studies, apart altogether from practical results, have a high *educative* value, because they impart precision and power to the operation of our intellectual faculties in their general exercise. On this doctrine, proved true by the history of education and the history of mankind, Mr. Adams seeks to bring contempt—as if truth could ever be made contemptible!—by calling it "the great impalpable-essence-and-precious-residuum theory." Assuredly it is not by such absurd attempts at sarcasm that Latin and Greek are to be dislodged from their stronghold.

I have already expressed the opinion that the "College Fetich" does not materially contribute to a settlement of the conflicting claims of the old and the new learning. Things are left much as they were found. Notwithstanding the "Fetich," the "cant,' and the "superstition," Mr. Adams finds himself compelled to put in a *caveat* against misinterpretation. Those who have seen only the telegraphic summaries of his tirade will be surprised to find that he "is no believer in that narrow scientific and technological training which now and again we hear extolled." Of this it is admitted that "a practical and too often a mere vulgar, money-making utility seems to be its natural outcome." "The broadened culture, which is the true end and aim of the University," is cordially endorsed, as well as the fact that "there is a considerable period in every man's life when the best thing he can do is to let his mind soak and tan in the vats of literature." This is excellent, but is it logically consistent with the whole drift of the previous reasoning, even though *modern* is put on a par with *ancient* literature, and Gœthe and Montaigne are made equal to Sophocles and Cicero? Can a knowledge of Gœthe and Montaigne conduce to the "development of a specialty" in connection with the railroad system? What has modern literature, even though one should "soak and tan" in its "vats," to do with "locomotive enquiries"?

In short, Mr. Adams, when he comes into the region of *practical suggestion*, beats his own reasoning with contempt, and writes very much as a discreet advocate of the claims of classical learning and literature would write. At first brandishing the axe of utter destruction, he eventually makes it appear that it is only a little modest pruning he is aiming at. Banish the classics, indeed! Why, who does not recognize and admire "the subtle, indescribable fineness, both of thought and diction, which a thorough classical education gives to the scholar," and who among Mr. Adams' countrymen does not "deplore the absence of this in the writings and utterances of many of our own authors and public men"?

How to do justice to this marvellous instrument of grace and polish, how to preserve this "subtle fineness" and yet meet the obvious demands of this busy age, is one of the greatest educational problems of the day. On its solution, I regret to say, the "College Fetich" sheds no light whatever.

ENGLISH IN SCHOOLS.

[*Continued from last month.*]

Let the efficacy of a very few good books be seasonably steeped into he mind, and then, in the matter of their reading, people will be apt to go right of their own accord; and assuredly they will never be got to go right except of their own accord. You may thus hope to predispose and attune the faculties of choice to what is noble and sweet, before the spring of choice are vitiated by evils or ignorant conversations. If people have their tastes set betimes to such authors as Spenser and Shakespeare, Addison, Scott, Wordsworth, and Charles Lamb, is it likely that they will stomach such foul stuff as the literary slums and grog-shops of the day are teeming with? I hope it is not so, and I will not readily believe it can be so. Nor can I see any impracticability, any insuperable difficulty. Instances of native dulness or perversity there will indeed be, such as no soul-music can penetrate; but that, as a general thing, young minds, yet undeflowered by the sensational flash and fury of vulgar book-makers, will be found proof against the might and sweetness of that which is intellectually beautiful and good, provided they be held in communication with it long enough for its virtue to penetrate them, is what I will not, must not, believe, without a fairer trial than has yet been made.

In reference to the foregoing points, a well-chosen and well-used course of study in the best English classics seems the most eligible and most effective preparation. Whether to the ends of practical use or of rational pleasure, this cannot but be the right line of early mental culture. The direct aids and inspirations of religion excepted, what better nursery can there be of just thoughts and healthy tastes? what more apt to train and feed the mind for the common duties, interest, affections, and enjoyments of life? For the very process here stands in framing and disposing the mind for intercourse with the sayings of the wise, with the gathered treasures of light and joy, and with the meanings and beauties of Nature as seen by the eye, and interpreted by the pen, of genius and wisdom.

We are getting sadly estranged from right ideas as to the nature and scope of literary workmanship. For literary work, in its proper character, is nowise a something standing outside of and apart from the practical service of life; a sort of moonshine world, where the working understandiug sleeps for the idle fancy to dream. This is no doubt true in regard to most of the books now read; which are indeed no books, but mere devils and dunces in books' clothing; but it is not at all true of books that are books indeed. These draw right into the substance and pith of actual things; the matter of them is "labour'd and distill'd through all the needful uses of our lives"; the soul of their purpose is to arm and strengthen the head, and to inspire and direct the hand for productive work. That an author brings us face to face with real men and things, and helps us to see them as they are; that

he furnishes us with enablements for conversing rationally, and for wrestling effectively, with the problems of living, operative truth; that he ministers guidance and support for thinking nobly and working bravely in the services, through the perils, under the difficulties and adversities of our state, — this is the test and measure of his worth; this is the sole basis of his claim to rank as a classic. This, to be sure, is not always done directly, neither ought it to be; for the helps that touch our uses more or less indirectly often serve us best, because they call for and naturally prompt our own mental and moral co-operation in turning them to practical account.

It is such literature that the poet has in view when he tells us,—

> books, we know,
> Are a substantial world, both pure and good;
> Round these, with tendrils strong as flesh and blood,
> Our pastime and our happiness will grow.
>
> And books are yours,
> Within whose silent chambers treasure lies
> Preserved from age to age: more precious far
> Than that accumulated store of gold
> And orient gems which, for a day of need,
> The Sultan hides deep in ancestral tombs:
> These hoards you can unlock at will.

Nor is it the least benefit of such authors that they reconcile and combine utility with pleasure, making each ministrative to the other; so that the grace of pleasant thoughts becomes the sweeter for their usefulness, and the virtue of working thoughts the more telling for their pleasantness; the two thus pulling and rejoicing together. For so the right order of mental action is where delight pays tribute to use, and use to delight; and there is no worse corruption of literature in the long run than where these are divorced, and made to pull in different lines. Such pleasure is itself uplifting, because it goes hand in hand with duty. And as life, with its inevitable wants and cares and toils, is apt to be hard enough at the best with most of us, there is need of all the assuagements and alleviations that can come from this harmonizing process. Pressed as we are with heavy laws, happy indeed is he

> Who from the well-spring of his own clear breast,
> Can draw, and sing his griefs to rest.

Next to a good conscience and the aids of Christian faith, there is no stronger support under the burdens of our lot than the companionship of such refreshing and soul-lifting thoughts as spring up by the wayside of duty, from our being at home with the approved interpreters of Nature and truth. This is indeed to carry with us in our working hours a power

> That beautifies the fairest shore,
> And mitigates the harshest clime.

Now I do not like to hear it said that our school-education can do nothing towards this result. I believe, nay, I am sure, it can do much; though I have to admit that it has done and is doing far less than it might. I fear it may even be said that our course is rather operating as a hindrance than as a help in this respect. What sort of reading are our schools planting an appetite for? Are they really doing anything to instruct and form the mental taste, so that the pupils on leaving them may be safely left to choose their reading for themselves? It is clear in evidence that they are far from educating the young to take pleasure in what is intellectually noble and sweet. The statistics of our public libraries show that some cause is working mightily to prepare them only for delight in what is both morally and intellectually mean and foul. It would not indeed be fair to charge our public schools with positively giving this preparation; but it is their business to forestall and prevent such a result. If, along with the faculty of reading, they cannot also impart some safe-guards of taste and habit against such a result, will the system prove a success?

As things now go, English literature is postponed to almost everything else in our public schools; much as ever it can gain admission at all; and the most that can be got for it is merely such fag-ends of time as may possibly be spared from other studies. We think it a fine thing to have our children studying Demosthenes and Cicero; but do not mind having them left almost totally ignorant of Burke and Webster. Yet in the matter of practical learning, aye, and of liberal learning too, deep and comprehensive eloquence, for instruction in statesmanship and in the principle of civil order and social well-being, Burke alone is worth more than all the oratory of Greece and Rome put together, albeit I am far from meaning to disrepute the latter. And a few of Webster's speeches, besides their treasure of noble English,—"a manly style fitted to manly ears,"—have in them more that would come home to the business and bosoms of our best American intelligence, more that is suited to the ends of a well-instructed patriotism, than all that we have inherited from the lips of ancient orators.

So, again, we spare no cost to have our children delving in the suburbs and outskirts of Homer and Virgil, for not one in fifty of them ever gets beyond these; yet we take no pains to have them living in the heart of Shakespeare and Wordsworth; while there is in Shakespeare a richer fund of "sweetness and light," more and better food for the intellectual soul, a larger provision of such thoughts as should dwell together with the spirit of a man and be twisted about his heart for ever, than in the collective poetry of the whole ancient heathen world.

It may indeed be said that these treasures are in a language already known, and so are accessible to people without any special preparation; and that the school is meant to furnish the keys to such wealth as would else be locked up from them. But our public schools leave the pupils without any taste for those native treasures, or any aptitude to enjoy them; the course there pursued does almost nothing to fit and dispose the pupils for communing with the wisdom and beauty enshrined in our mother-tongue; while hardly any so master the Greek and Latin as to hold communion with the intellectual virtue which they enshrine. Few, very few, after all, can be trained to love Homer; while there are, I must think, comparatively few who cannot be trained to love Shakespeare; and the main thing is to plant that love. The point, then, is just here: Our schools are neither giving the pupils the key to the wisdom of Homer, nor disposing them to use the key to the wisdom of Shakespeare. And so the result is that, instead of bathing in the deep, clear streams of thought, ancient or modern, they have no taste but for waddling or wallowing in the shallow, turbid puddles of the time: —

> Best pleased with what is aptliest framed
> To enervate and defile.

It is a notorious fact that among our highly-educated people, the graduates of our colleges, really good English scholars are extremely rare. I suspect it is not too much to say that among our instructors there are at least twenty competent to teach English literature. Very few indeed of them are really at home in the great masters of our native tongue, so as to make them matter of fruitful exercise in the class-room. They know not how to come at them, or to shape their course in teaching them. Their minds are so engrossed with the verbal part of learning, that, unless they have a

husk of words to stick in, as in studying a foreign language, they can hardly find where to stick at all.

This habit, I suppose, comes mainly as a tradition from a former age; a habit which, though begun upon good causes, has been kept up long after those causes were done away. The prevailing ideas herein got fixed at a time when there was no well-formed English literature in being; when the language itself was raw and rude; and when the world's whole stock of intellectual wealth was enshrined in other tongues. The custom thus settled from necessity is continued to this day, when the English tongue, besides its own vast fund of original treasure, has had the blood of all the best human thought transfused into its veins, and when its walks have grown rich and delectable with the spoils of every earlier fruitage of genius and learning.

Three centuries ago Chaucer was the only really good English author; he was then two hundred years old; and the language had changed so much since his time, that reading him was almost like studying a foreign tongue. So much was this the case, that Bacon thought the English was going to bankrupt all books entrusted to its keeping: he therefore took care to have most of his own works translated into Latin; and now our greatest regret touching him is, that we have not all those works in his own noble English. Before his time, the language changed more in fifty years than it has done in all the three hundred years since. This is no doubt because the mighty workmen of that age, himself among them, did so much to "bolt off change" by the vast treasures of thought and wisdom which they found or made the language capable of expressing. The work then so gloriously begun has been going on ever since, though not always with the same grand results; until now the English is commonly held to be one of the richest and noblest tongues ever spoken, and the English literature is, in compass and variety of intellectual wealth, unsurpassed by any in the world.

How strange it is, then, that, with such immense riches at hand in our vernacular, we should so much postpone them to the springs that were resorted to before those riches grew into being! Because Homer and Sophocles had to be studied before Shakespeare wrote, why should Shakespeare still be ignored in our liberal education, when his mighty works have dwarfed Homer and Sophocles into infants? There might indeed be some reason in this, if he had been in any sort the offspring of these Greek masters; but he was blessedly ignorant of them, which may partly account for his having so much surpassed them. He did not conceive himself bound to think and write as they did; and this seems to have been one cause why he thought and wrote better than they did. I really can see no reason for insisting on learning from them rather than from him, except that learning from him is vastly easier.

Nevertheless I am far from thinking that the Greek and Latin ought to be disused or made little of in our course of *liberal* learning. On the contrary, I would, of the two, have them studied in college even more thoroughly then they commonly are; and this, not only because of their unequalled use in mental training and discipline, and as a preparation for solid merit and success in the learned professions, but also because a knowledge of them is so largely fundamental to a practical mastery of our own tongue. And here I am moved to note what seems to me a change for the worse within the last forty years. Forty years ago, besides that the Greek and Latin were made more of in college, at least relatively, than they are now, the students had both more time for English studies, and also more of judicious prompting and guidance in their reading. But, of late, there has been so much crowding-in of modern languages and recent branches of science, that students have a good deal less time than formerly for cultivating English literature by themselves. In short, our colleges, it seems to me, did much more, forty years ago, towards setting and forming right literary and intellectual tastes than they are doing now. I believe they are now turning out fewer English scholars, and that these are not so well grounded and cultured in the riches of our native tongue. The fashion indeed has been growing upon us of educating the mouth much more than the mind; which seems to be one cause why we are having so many more talkers and writers than thinkers. An unappeasable itch of popularity is eating out the old love of solid learning, and the old relish for the haunts of the Muses.

It may have been observed, that in this argument I distinguish somewhat broadly between a liberal and a practical education. Our colleges ought to give, and, I suppose, aim at giving, the former; while the latter is all that our public schools can justly be expected to give. And a large majority of the pupils, as I said before, are to gain their living by hand-work, not by head-work. But then we want them made capable of solid profit and of honest delight in the conversation of books; for this, as things now are, is essential both to their moral health and also to their highest success in work; to say nothing of their duties and interest as citizens of a republican State. And, to this end, what can be more practical, in the just sense of the term, than planting and nursing in them right intellectual tastes, so that their reading shall take to such books as are really wholesome and improving?

On the general subject, however, I have to remark further, that our education, as it seems to me, is greatly overworking the study of language, especially in the modern languages. From the way our young people are hurried into French and German, one would suppose there were no English authors worth knowing, nor any thought in the English tongue worth hearing. So we cram them with words, and educate them into ignorance of things, and then exult in their being able to "speak no sense in several languages." Surely a portion of the time might be as innocently spent in learning something worth speaking in plain mother-English. When we add that, with all this wear and tear of brain, the pupils, ten to one, stick in the crust of words, and never get through into the marrow of thought, so as to be at home in it, our course can hardly be deemed the perfection of wisdom.

Our custom herein seems to involve some flagrant defect or error in our philosophy of education. The true process of education is to set and keep the mind in living intercourse with things; the works and ways of God in nature are our true educators. And the right office of language is to serve as the medium of such intercourse. And so the secret of a good style in writing is, that words be used purely in their representative character, and not at all for their own sake. This is well illustrated in Shakespeare, who in his earlier plays used language partly for its own sake; but in his latter plays all traces of such use disappear; here he uses it purely in its representative character. This it is, in great part, that makes his style so much at once the delight and the despair of those who now undertake to write the English tongue. And in other writers excellence of style is measured by approximation to this standard. This it is that so highly distinguishes Webster's style,—the best yet writen on this continent. His language is so transparent that in reading him one seldom thinks of it, and can hardly see it. In fact the proper character of his style is perfect, consummate manliness; in which quality I make bold to affirm that he has no superior in the whole range of English authorship. And in his *Autobiography* the great man touches the secret as to how this came about. "While in college," says he, "I delivered two or three occasional addresses, which were published. I trust they are forgotten; they were in very bad taste. I had not then learned that all true power in writing is in the idea, not in the style; an error into which the *Ars Rhetorica*, as it is usually taught, may easily lead stronger heads than mine."

Hence it follows that language should be used and studied mainly in its representative character; that is, as a medium for conversing with things; and that studying it merely or even mainly for its own sake is a plain inversion of the right order. For words are of no use but as they bring us acquainted with the facts, objects, and relations of Nature in the world about us. The actual things and ideas which they stand for, or are the signs of, are what we ought to know and have commerce with. In our vernacular, words are, for the most part, naturally and unconsciously used in this way; except where a perverse system has got us into a habit of using them for their own sake; which is indeed the common bane of American authorship, making our style so intensely self-conscious that an instructed taste soon tires of it. But, in studying a foreign tongue, the language itself is and has to be the *object* of thought. Probably not one in fifty of our college graduates learns to use the Greek and Latin freely as a medium of converse with things. Their whole mental force is spent on the words themselves; or, if they go beyond these to the things signified, it is to help their understanding of the words.

I freely admit that language, even our own, ought to be, to some extent, an object of study; but only to the end of perfecting our use and mastery of it as a medium. So that the true end of mental action is missed where language is advanced into an ultimate object of study; which is practically making the end subordinate to the means. Here, however, I an anxious not to be misunderstood, lest I may seem to strain the point too far; for I know full well that in such a cause nothing is to be gained by breaches of fairness and candor. It is a question of relative measure and proportion. And I mean that our education treats language quite too much as an object of thought, and quite too little as a medium. Our students, it seems to me, are altogether too much brought up in "the alms-basket of words"; and of too many of them it may not unfairly be said, "They have been at a great feast of languages, and stolen the scraps."

I have said that our custom in this matter stands partly as a tradition from a long-past age when there was no English literature in being. But this does not wholly explain it. The thing proceeds in great part from a perverse vanity of going abroad and sporting foreign gear, unmindful of the good that lies nearer home. Hence boys and girls, especially the latter, are hurried into studying foreign languages before they have learnt to spell correctly or to read intelligibly in their own. I say girls especially, because, since the women set out to equal, perhaps to eclipse, the men in brain-power, a mighty ambition has invaded them to be flourishing their lingual intellectuality in our faces. Besides, the fashion now is to educate young women for any place rather than for home. Most of them hope some time to spend six months travelling in Europe; and they think far more of preparing for that holiday than for all the working-day honours and services of life. And I fear it must be said withal, that we are the most apish people on the planet. I wish we may not prove "the *servum pecus* of a Gallic breed." Be that as it may, parents among us apparently hold it a much grander thing to have their children chopping Racine and Voltaire than conversing with the treasures of wisdom and beauty in our own tongue; as if smattering French words were better than understanding English and American things.

Thus our school education is growing to be very much a positive dispreparation for the proper cares, duties, interests, and delectations of life. The further a thing draws from any useful service or common occasion, the more pride there is in studying it. Whatever will serve best to prank up the mind for flaunting out its life away from home, that seems to be their first concern. To this end, we prefer something out of the common way; something that can be turned to no account, save to beguile a frivolous and fashionable leisure, or to mark people off from ordinary humanity, and wrap them up in the poor conceit of an aristocratic style. In short, we look upon the honest study of our honest mother-English as a vulgar thing; and it pleases us to forget that this squeamish turning-up of the nose at what is near and common is just the vulgarest thing in the world. Surely we cannot too soon wake up to the plain truth, that real honor and elevation, as well as solid profit, are to grow by conversing with the things that live and work about us, and by giving our studious hours to those masters of English thought from whom we may learn to read, soberly, modestly, and with clear intelligence, a few pages in the book of life.

The chief argument in support of the prevailing custom is that the study of languages, especially the Greek and Latin, is a mental gymnastic. No doubt it is so. But the study, as it is managed with us, may be not unfairly charged with inverting the true relative importance of mental gymnastic and mental diet. Formerly the Greek and Latin were held to be enough; but now, by adding three or four modern languages, we are making the linguistic element altogether too prominent. We thus give the mind little time for feeding, little matter to feed upon; and so keep it exercising when it ought to be feeding; for so the study of words has much exercise and little food. Now such an excess of activity is not favorable to healthy growth. Substituting stimulants for nourishment is as bad for the mind as for the body. Supply the mind with wholesome natural food; do all you can to tempt and awaken the appetite; and then trust somewhat to nature. True, some minds, do your best, will not eat; but, if they do not eat, then they ought not to act. For dulness, let me tell you, is not so bad as disease; and from straining so hard to stimulate and force the mind into action without eating, nothing but disease can result. Depend upon it, there is something wrong with us here; food and exercise are not rightly proportioned in our method. In keeping the young mind so much on a stretch of activity, as if the mere exercise of its powers were to be sought for its own sake, we are at war with Nature. And a feverish, restless, mischievous activity of mind is the natural consequence of such a course; unless, which is sometimes the case, the mental forces get dried into stiffness from mere heat of gymnastic stress.

We are now having quite too much of this diseased mental activity. Perhaps our greatest danger lies in a want of mental repose. The chronic nervous intensity thus generated is eating the life out of us, and crushing the nobler energies of duty and virtue, aye, and of sound intelligence too. For, while we are thus overworking the mind, the muscular and nutritive systems of course suffer; so that, first thing we know, the mind itself gives out; and people go foolish or crazy from having been educated all into nerves. Composure is the right pulse of mental health, as it is of moral; and "a heart that watches and receives" will gather more of wisdom than a head perpetually on the jump. We need "the harvest of a quiet eye," that feeds on the proportions of truth as she beams from the works of Nature and from the pages of Nature's high-priest. But now we must be in a giddy whirl of brain-excitement, else we are miserable, and think our mental faculties are in peril of stagnation. Of intellectual athletes we have more than enough; men, and women too, who think to renovate the world, and to immortalize themselves, by being in a continual rapture and tumult of brain-exercise; minds hopelessly disrobed from the calmness of reason, and held in a fever of activity from shere lack of strength to sit still. It was minds that Bacon had in view when he described man in a certain state as being "a busy, mischievous, wretched thing, no better than a kind of vermin." To be intellectual, to write books, to do wonders in mental pyroteehny, is not the chief end of man, nor can we make it so. This is indeed what we seem to be aiming at, but we shall fail; Nature will prove too strong for us here; and, if we persist, she will just smash us up, and replace us with a people not so tormentedly smart. It is to the meek, not the brilliant, that the possession of the earth is promised. My conclusion from the whole is, that, next to the elementary branches, and some parts of science, such as geography, astronomy, and what is called natural philosophy, standard authors in English literature ought to have a place in our school education. Nor am I sure but that, instead of thus postponing the latter to science, it were still better to put them on an equal footing with it. For they draw quite as much into the practical currents of our American life as any studies properly scientific do; and what is of yet higher regard, they have it in them to be much more effective in shaping the character. For they are the right school of harmonious culture as distinguished from mere formal knowledge; that is, they are a discipline of humanity; and to have the soul rightly alive to the difference between the noble and the base is better than understanding the laws of chemical affinity.

(*To be continued*).

Promotion Examinations.

COUNTY OF LANARK, JUNE, 1883.

ENGLISH LITERATURE.

GRADE IV.

(Pupils will open their books at page 74.)

1. Explain the meaning of :—'stockade fort,' 'gallant defence,' 'they attempted to decoy them from their fastness,' 'to stand a siege,' 'a hollow square.'
2. Explain the title of this lesson.
3. Give the meaning of :—'pioneers,' 'renegade,' 'garrison,' 'defenceless,' 'ambush,' 'expedient,' 'hazardous.'
4. Who were their natural protectors? Where were they?
5. Write from memory any three stanzas of "The Wreck of the Hesperus."

(Pupils are not to have books in answering 5th Question.)

GRAMMAR AND COMPOSITION.

1. Name the parts of speech in the following :—"We visited Niagara Falls and admired their grandeur; our guide was a Canadian who pleased us highly."
2. Divide the following into subject und predicate :—
   (a) Fine feathers do not make fine birds.
   (b) She dwelt on a wide moor.
3. Write a simple sentence containing the word *horse*, and one containing the word *pigeon*.
4. Write a description of any game at which you play.

GEOGRAPHY.

1. What is a continent? a volcano? a plain? an archipelago? a strait? a river?
2. In what township, county, province, hemisphere, and zone do you live?
3. Name the largest ocean, sea, lake, river, continent, and island in the world.
4. Give the boundaries of the continent of America.
5. Name the counties on Georgian Bay, Lake St. Clair, and River St. Lawrence, with county town of each.
6. Into what waters do the following rivers empty :—Saugeen, Grand, Moira, Sydenham, Niagara, Ottawa, Bonnechere, McKenzie, Mississippi?
7. Where is each of the following :—Allumette, Scugog, Quinte, Manitoulin, Peel, Guelph, Lindsay, Farewell, Vancouver?
8. What railway would you use, and what places would you pass in going from Arnprior to Perth?

ARITHMETIC.

(Time—One and one-half Hours.

1. Express in Roman Numerals 949, 4808, also the difference between above numbers, and express in figures seven hundred thousand seventy; 7 billions 49 millions and six.
2. Find the value of $17086+6909-456\times4+21741\div3+314658-1045+6789071$.
3. A merchant bought on an average 6 loads of grain daily, each containing 78 bushels. How many bushels would he buy in 3 months, allowing 4 weeks to a month and 6 days to a week?
4. A merchant spends $1397.34 in tea at 63 cents a lb. How many lbs. does he buy?
5. I sold 20 horses at $152 each, and bought 19 cattle at $48 each, 98 calves at $8 each, and spent the remainder in sheep at $6 each. How many sheep did I buy?
6. Explain the terms: difference, quotient, plus, reduction, and write the table for Beer Measure.
7. Reduce 691 scr. to lbs.
8. How many yards in one mile and a-half?

Values—10 each. 75 full value.

READING.

Third Book—Page 51.

Value—50.

SPELLING.

1. Punctuality, conscience, pastry, assistance, subsistence, harangue, despondence, precipice, tenacity, imagination, moustache, sausage, venison, abominable, ungrateful, aviary, docility, benevolence, partial, field-marshal, nautical, voracious, superciliously, manœuvre, rebellion, aperture.
2. The tears came into his eyes. All the kings vied with each other in enriching their national museum with the beautiful products of his genius. Variegated pictures. His cage was well stored with chaffinches, linnets, wrens, ringdoves, and pigeons. Austere symphony.

Value—40. 2 off for each error.

CANADIAN HISTORY.

GRADE V.

(Time—One and one-half Hours.)

1. Who discovered Canada? When? How did he come to call it Canada?
2. When was Quebec founded? By whom? When was Montreal founded?
3. Give the most important events in Frontenac's rule.
4. Who was the last French Governor of Canada? Mention some of the events of his rule.
5. Name the Provinces of the Dominion at the present time with date when each was admitted.
6. Give in order the Governors of the Dominion since Confederation. Why do we celebrate Dominion Day?

LITERATURE.

(Pupils will turn to page 193.)

1. Explain the title of the lesson fully.
2. Explain the meaning of :—'encounter their fellow men amid the din of battle,' 'fury of the elements,' 'noble self sacrifice,' 'not aware of their dangerous position,' 'generous anxiety,' 'arouse the inmates,' 'rightly conjectured,' 'enveloped the house,' 'fearful responsibility,' 'heroically executed.'
3. Give the meanings of :—'palmated,' 'promptitude,' 'rampart,' 'martial,' 'upbraid,' 'random,' 'proprietor.'
4. What classes of persons are meant by 'those who encounter,' and 'those who strive.'
5. Write from memory one verse of "Twenty Year's Ago."

(Pupils are not to have books for 5th Question.)

GRAMMAR AND COMPOSITION.

1. Parse—"I broke a chord of my violin by tying a cord too tightly upon it."
2. Analyze the following sentences :—
   (a) John gave me a shilling yesterday.
   (b) The soldiers of the tenth legion were wearied with their long march.
   (c) Do you work well?
3. Define—Relative Pronoun, Transitive Verb, Comparison.
4. Write six simple sentences of not less than six words, and draw a line under the predicate.
5. Describe the building in which you are writing, telling all you know about its size, the material of which it is built, &c.
6. Correct the following sentences :—
   (a) It's me. Yes.
   (b) Him wants going home.
   (c) I done a sum.
   (d) He was drownded.
   (e) These apples is sweet.

GEOGRAPHY.

1. Define—Coast, Plateau, Watershed, Longitude, Ecliptic.

2. Name the maritime provinces with capital of each. What are their principal industries?
3. Name the islands, gulfs, bays, and straits on the east coast of Canada, and state the location of each.
4. What lakes are discharged by the following rivers:—McKenzie, Abbitibbe, Bonnechere, Severn, Detroit, Chaudiere, Saguenay?
5. Name the mountain ranges of North America; the rivers of South America.
6. Name the interior counties of Ontario, with the county town of each.
7. What, and where are:—Matchedash, Necbish, Southampton, Belle Isle, Catoche, Honduras, Monte Video, Pyrenees, Azof, Candia.

ARITHMETIC.

1. The smaller of two numbers is contained 32 times in 576, and the greater number is 18 times the smaller; find the product of the numbers.
2. Find the cost of building a fence 1 mile, 495 yards long, at 45cts. a rod.
3. Find the total cost of:—
   10ac. land @ $15 a rood.
   75bus. oats @ 12cts. a peck.
   2520lbs. wheat @ 95cts. a bushel.
4. A gentleman bought a house, lot, and furniture. The house cost $526, the lot $244 less than the house, and the furniture $18 more than the lot; what was the cost of all three?
5. If an acre of land produce 65 bush., 3 pks., 7 qts., how much ought 17 acres to produce at same rate.
6. What is meant by a multiple of any given number, a common measure of two or more numbers? Find the L.C.M. of 288 and 432, and the H.C.F. of 9, 15, and 33.
7. If 12 men can do a work in 15 days, how long will it take 18 men to do the same work?
8. A man's coat and vest are worth $15.60, and his coat is worth 5 times as much as his vest. Find the price of each.

Values—10 each. 75 full paper.

READING.

GRADE V.

Third Book—Page 250.

Value—50.

SPELLING.

1. Insectivorous propensities. Parochial livery. Roguish, saucy familiarity. Impudent nonchalance. Imminent jeopardy. He crouched in that most ominous attitude. The bees had stored their luscious hoard in artful cells. Miniature sleigh. He planted his talons round his adversary's throat and held him as in a vice. Creation's tyrant. Ethereal sky. Though they struggled desperateiy they were separated.
2. Correspondent, peregrinations, rhinoceros, bowlful, paroxysm, exigencies, enthusiastic, thermometer, pageantry, chivalry, cannibal, indignant, irresistibly, inextricably, reminiscence, precipice,

Value—40. 2 off for each error.

ENGLISH HISTORY.

GRADE VI.

(Time—One and one-half Hours.)

1. Who were the Saxons, where did they come from, and what was their religion? Tell anything else you know about them.
2. Who was the greatest of the Saxon kings of England, and for what was his reign principally noted?
3. What was the Great Charter? The Wars of the Roses?
4. What great events took place in A.D. 1066, 1172, 1282, 1346?
5. Explain what is meant by *to prorogue*, *to adjourn*, and *to dissolve* parliament.
6. What is the difference between the government of Britain and the government of the United States?

CANADIAN.

7. What happened in Canada in 1812? Why? Who were at war? Name the Canadian battle-fields. What happened in 1840?
8. What is meant by Confederation? When was it brought about?
9. Tell what you know about Brock, Tecumseh, Lord Durham, and Champlain.

ENGLISH LITERATURE.

(Pupils will open their books at page 105.)

1. Give the meanings of:—'council,' 'resplendent,' 'gorgets,' 'ally,' 'salutations,' 'parallel,' 'absolutely,' 'subside,' 'divested,' 'facilitate,' 'exordium,' 'aborigines.'
2. What did "the pipe of peace" indicate! By whom was it smoked? Give another name for it.
4. Explain in your own words the following:—'linked together in a chain of friendship,' 'mode of utterance,' 'how continuously the race of red men had melted, and were still melting, like snow before the sun.'
4. Who was the "Great Parent?" What is meant by the "Salt Lake?"
5. Give a description, in your own words, of the "Fire in the Woods."

(Pupils are not to have books in answering 5th Question.)

GRAMMAR AND COMPOSITION.

1. What is the use of Grammar? What is a sentence? Give an example of a simple sentence.
2. Analyze the following:—
   (*a*) In these journeys he encountered the most frightful perils.
   (*b*) How had she contrived to sustain life?"
   (*c*) Lay aside your white skin wrapper.
3. Parse—"England had not been idle in taking possession of new countries, and planting her sons therein."
4. Write the plural of calf, me, beauty, journey, monarch; and compare big, various, good, evil, much.
5. Change the voice of all transitive verbs in the following:—
   (*a*) They kept the birds enclosed till they were wanted for the table.
   (*b*) These old voyagers tell us that thirty boats could be filled with the birds.
6. Combine the following into a simple sentence:—
   (*a*) In that year a pair of birds was shot.
   (*b*) The birds were male and female.
   (*c*) They were shot at their nest.
   (*d*) The nest was on an islet.
   (*e*) The nest was near one of their former breeding places.
7. Write a short sketch of some story you have heard or read.
8. Correct what you see wrong in the following, and give your reasons as far as you can:—
   (*a*) He telt me a lie.
   (*b*) There's two or three of us going.
   (*c*) Them was not at school to-day.
   (*d*) Them lessons are hard to-night.
   (*e*) I did not get no sleep to-night.

GEOGRAPHY.

1. Define—Delta, Firth, Oasis, Republic, Kingdom. Give an example of each.
2. Name the principal branches of the Atlantic Ocean on its eastern side.
3. In what county, and on what river are the following situated:—Chatham, Galt, Stratford, Belleville, Perth, Amherstburg, Brantford, Winnipeg?
4. Mame the mountains of British Columbia, the lakes of Quebec, and the rivers of New Brunswick.

5. Name the political divisions of South America, and give the capital of each.
6. Outline a map of the southern coast of Europe, marking the seas, gulfs, straits, and islands.
7. What and where are :—Mississagua, Dunkirk, Hull, Orleans, Miramichi, Portage-la-Prairie, Hooker, Faroe, Perekop, La Hogue?

MENTAL ARITHMETIC.

1. $17+9-12\times3-17\div5\times9+5\div10$.
2. $1250\div25\times11$.
3. A grocer mixes 8 lbs. of tea at 60 cts. a lb. with 4 lbs. at 75 cts. What is the mixture worth a lb. ?
4. If 9 cords of wood cost $27, how many cords can be bought for $19.50 ?
5. Reduce 192 farthings to shillings.
6. What change should I receive out of 40 cents after paying for 2 dozen oranges at 4 for 5 cents ?
7. Divide $45 between *A* and *B*, giving *A* $4 as often as *B* gets $5.
8. A boy gave away $\frac{2}{5}$ of his marbles to one boy and $\frac{1}{3}$ to another, and then had 18 left. How many had he at first ?
9. What part of 7 times 4 is one-ninth of 72 ?
10. $\frac{2}{3}$ of 27 is $\frac{8}{7}$ of how many times 3 ?

ARITHMETIC.

1. Define—Unit, Abstract Number, Greatest Common Measure, Fraction.
2. The product of two numbers of which one is thrice the difference between ten thousand and one, and nine thousand nine hundred and ninety-seven, is three hundred and twenty-three thousand seven hundred and ninety-six. Find the other number.
3. Find the total cost of :—
   2462 ft. of boards @ $7.25 per 1000.
   1830 lbs. of hay @ $9.00 a ton.
   2828 lbs. of clover seed @ $6.25 a bushel.
4. Of a farm of 300 ac. two lots were reserved ; one 25 ac. 3 ro. 27 po., and the other 57 ac. 2 ro. 36 po. ; the remainder sold at 45 cents per sq. per. ; how much did it bring.
5. A rule 2 ft. 6 in. long is contained in two ropes 29 and 57 times respectively. How much longer is one rope than the other ?
6. What must be added to $\frac{3}{4}+1\frac{7}{9}+\frac{8}{9}$ to make the sum equal to 4?
7. Find the cost of plastering the four walls and ceiling of a room 20 ft. long, 16 ft. wide, 10 ft. high, at $7\frac{1}{2}$ cents a sq. yd. ?
8. *A* can do a piece of work in 20 days, *B* in 24 days, *C* in 30 days ; how long will it take them to do the work altogether ?

Values—10 each. 75 full paper.

READING.

Fourth Book—Page 115.

Value—50.

SPELLING.

1. Icy embrace. Executive council. The snow was whirled to eddying mist. The dread torpor crawling came. He manifested unparalleled fortitude. With the deep guttural bellowings of the antlered monster, and the plaintive answers of his consort. The pigmy ancestor of a numerous and giant progeny. The muzzle pointing vertically downwards upon the bait. Mr. Grant, at the imminent peril of his life, saved the remnant of the settlers from extirpation. The larch's supple sinews. Sylvan happiness reigned here. A cake of hard deer's fat with scraps of suet toasted brown intermixed, was eaten with the meat ; soup was the drink. Three completed the complement. He paid him this compliment.
2. Interpreter, apprentice, myriads, lustreless, phenomenon, halibut, eels, cranberry, mat-weed, unpalatable, combustible, belligerent, biscuits, alacrity, decoctions, abutments, grotesquely, independence, sturgeon, salmon, picturesque.

Value—40. 2 off for each error.

"Oh, that Plato!"—Somebody tells a good story at Emerson's expense. A Yorkshireman was advised to read some really good book, and Plato was mentioned as likely to suit him. Afterward he was asked, "Well what do you think of Plato ?" "Plato ? Oh, that Plato! I'll tell you what I think of him. He's as big a humbug as ever lived. Why, man, Emerson has said it all before him."—*Ex.*

Practical Department.

SCHOOL DISCIPLINE.

(1.) *Reasoning.* A large number of cases yield to skilfully applied argument. The teacher, by studying case after case, learns to speak so wisely that the pupil yields at once.

A pupil had refused to obey, and stood before his teacher. Without excitement the teacher said: "So, John, you refuse to give Robert his pencil ?" "Yes, sir." "Let me see it." The pupil demurred, fearing the teacher would retain it. "Ah, John, you need not fear ; *I* don't keep people's pencils ; it is not my style." It was handed out. "How much is this worth, boys ?" Some said it was worth a cent. "Well, John, will you sell this to me? The boys say it is worth a cent." Of course the matter was adjusted at once.

The teacher had given an example of the aspirate tone ; the expression : "Ha ! who comes there ?" One tried it and another. One boy refused. "Try it, John." John doggedly refused. "John gives it up, it is too much for him." And without provoking trouble took up the lesson.

William had been appointed "hall monitor," but refused to serve, saying he "did not come to school to do such business." "Why, President Garfield swept the rooms and rang the bell at Hiram academy ; and you think the work of assisting in making a good school is beneath you ? You don't understand the sort of a world you are in. You should be glad to help forward any good work anywhere, and everywhere. I will do this. You look on to-day and to-morrow, and if you don't then want to help things along here, you will be the only one ever heard of."

John had been busy in troubling his neighbors ; the teacher commanded him to come and write his name on the blackboard in a black list—(a very questionable device). The boy refused. The pupil was a large one ; the teacher was on the alert. "John feels ashamed, and his penmanship is not good ; Henry may write it for him." The teacher thus got himself out of a difficulty.

Another teacher not so wise took out his watch, "I will give you one minute to write the name." (No movement.) "I will give you one minute more." (No movement.) "You may now take your books and leave the school." (No movement.) At recess the pupil went home and told his father ; the trustees took the boy's side, and thus this little incident nearly broke up the school. The teacher claimed he was right. Was he ?

The above is a fair sample of thousands of troubles that occur in school-rooms.

(2.) *Penalties.* The teacher who makes rules must have penalties—that is clear enough. Hanging for stealing was once common in enlightened England. Whipping was the schoolmaster's favorite penalty ; the rod was ever in the teacher's hands ; for poor lessons, no lessons, disorder and stubbornness, it was laid mercilessly on the pupil's back. The writer remembers at a teachers' institute hearing the details of a flogging bestowed on a pupil who came late to school. "I gave him the biggest licking he ever had," said the teacher—and he was applauded ! What was the spirit of the teacher ?

It is of not so much importance what the penalty is, as that there is one.

1. Looking at a pupil. 2. Reproving a pupil in private. 3. Reproving before the school. (This is about the most severe of all.) 4. Putting name on roll. 5. Detention. 6. Notifying parent. 7. Suspending pupil from a class. (Hearing him recite after school.) 8. Visited by a committee. 9. Removal from his seat. 10. Sent out at recess after the rest. 11. Notifying school officers. 12. Suspension from school.—*Teachers' Institute.*

ADVANTAGES AND DISADVANTAGES OF THE ALPHABETIC METHOD.

(*a*) ADVANTAGES.

(1) This method is the general one. Other things being equal, methods which are most in use are the best. If a boy came from another school, for example, where the ordinary method had been adopted, he would lose time if he had to commence on another system.

(2) It is very minute in its processes, proceeding letter by letter, and thus cultivates the attention by requiring the scholars to pay regard to small details.

(3) It teaches spelling simultaneously with reading from the very commencement.

(4) Being the common method, it is provided with abundance of good material and apparatus. With other methods the books, sheets, etc., are more scarce, and not so perfected and elaborated by the labor and experience of many minds.

(5) It facilitates reference to dictionaries, encyclopædias, and other works drawn up in alphabetical order.

(6) It commands greater confidence among parents than any other. They can tell whether their children are "getting on" when their young ones are learning by the ordinary method, that with which they are acquainted themselves. They are apt to consider phonetic and other systems as mere "nonsense," and will sometimes take their children away in consequence. Of course mere prejudice against improved methods must not be regarded; this has to be overcome in the case of nearly all improvements. Still it has to be considered, and a novel system should not be introduced unless it presents decided advantage over the old one.

(*b*) DISADVANTAGES.

(1) It is of a dry and formal character, requiring great and exceptional skill on the part of the teacher to awake an interest in the learner.

(2) It follows the names of the letters instead of their sounds. As in English there is a great divergence between the names and the sounds of the letters, this method is a difficult one.

(3) The teacher is obliged to begin with very small words, and even with syllables which do not alone constitute words. Hence it is impossible to present the children with interesting lessons at the early stages of their school course, when it is so important to gain their attention and interest.

(4) Owing to its difficulty, much time is required to make good progress under this system, and thus many children, who have to leave school at an early age, go forth into the world without the power of reading fluently or intelligently.

(5) The mechanical difficulties of this method absorb the time which, under an easier one, might be devoted to explanation and illustration of the matter of the lesson.—*Moffatt's Scholarship Answers.*

SCHOOL MATTERS IN ENGLAND.

BY CHAS. W. ATHENS, O.

There are some things in the English public school system to which attention may very properly be called here. My observations have been confined chiefly to London; but its schools are conducted in the main like those of other large cities in England, some of which they do not surpass in excellence. The code of regulations now in effect was adopted in May, 1882, and all quotations in this paper are from the document of that date.

England has no free public schools. As compulsory education is pretty stringently enforced there are of course a good many children whose parents are too poor to pay for tuition, and in such cases it is remitted by the board of education. The minimum weekly tuition fee for each child is two cents; the maximum, eighteen cents. As the law however compels children to attend only "half-time," they are required to pay no more than half tuition, except in the lowest grade. The head teacher in each department is charged with the duty of collecting the fees. As an offset to this, the pupils do not furnish their own books, these being, in most cases, at least, provided by the boards of education. In London, there is in vogue a system of prize-giving by which pupils may earn books as rewards of merit. Each pupil that has attended punctually for one quarter receives from the head teacher a card of which the pecuniary value in books or work-boxes is from six to thirty-six cents, according to the grade of the school. Only girls in the advanced classes are allowed the option of work-boxes. But teachers may withhold from pupils the rewards earned by punctuality if their conduct in other respects has been unsatisfactory. Thus while there are no free schools so-called, children may not only receive gratuitous instruction, but earn articles of value in addition.

On the subject of punishment, I cannot do better than quote the words of the code: "Every occurrence of corporal punishment must be formally recorded in a book kept for that purpose. Head teachers must exercise the utmost caution in inflicting corporal punishment so as never to strike a child on any part of the head, either with the hand or any instrument whatever. Corporal punishment must not be inflicted during school hours. The name of any child to be punished shall be put down, and the cases of corporal punishment be dealt with at a particular time set apart for the purpose. Head teachers may inflict immediate corporal punishment in exceptional cases which, in their judgment, require such a course; but a special report of each case must be made by them in the punishment book, giving in full the reasons for departing from the ordinary rules of the board. Assistant teachers and pupil teachers are absolutely prohibited from inflicting such punishment. The head teacher is held directly responsible for every punishment of the kind."

I found among the London teachers, and also in the board, a strong sentiment against the infliction of corporal punishment. Some teachers with whom I conversed seemed to take pride in showing that their punishment books contained but a meagre record. An instance was related to me of a school in the East End of London, attended chiefly by the children of the worst and lowest classes, which had caused the authorities a great deal of trouble, because no teacher would remain long in charge of it, even if some would go so far as to try. At length, with considerable difficulty, the services of a lady were secured who had made an exceptionally fine record in another part of the city. She at once wholly discontinued the infliction of corporal punishment, and in a very short time, by the mere influence of her admirable taot and skill in school government, had transformed the school into one of the most orderly.

As a rule, teachers in England are not employed independently who have not attended a training school and served an apprenticeship to some older teacher. Head teachers may have in charge as many pupil teachers as they can oversee, but cannot receive pay for more than six. Naturally those teachers who have the best reputation are most sought by those intending themselves to enter the profession. Pupil teachers pay for this instruction—males twenty-five dollars, females twenty dollars per annum—and head teachers whose services are in demand may thus considerably increase their income. The absurd notion so prevalent here that any young person who knows a trifle more than other youth is a proper

and fit person to teach them independently has no defenders on the other side of the Atlantic, so far as my observations have extended.

The teacher's income may be made up from one or more of the following sources:—1. A fixed salary paid monthly. 2. A share in the government grant. 3. Payment to head teachers from pupil teachers. 4. Payment for instruction in drawing. As to point 2, it needs to be said that once a year regularly all the pupils are individually examined by a government inspector, and the teacher receives a pecuniary allowance for each one found competent to pass into the next grade. In some cases a teacher may take a school at a fixed annual rate without regard to the report of the inspector, but generally the sliding scale, or payment according to success, is found most efficient to secure the best work. In the lower grades there is not much difference between the salaries of males and females, usually about twenty-five dollars, up to a maximum of four hundred dollars. Beyond this the difference is greater, so that where a male head teacher receives five hundred and fifty dollars, a female receives but four hundred and fifty. Going still higher, when a male receives ten hundred and fifty dollars, the female teacher of the same grade receives but seven hundred and fifty. As a part of the fixed salary is reckoned the annual increase made upon each "good report" which the teacher receives from the inspector. This increase is fifty dollars for a male teacher and thirty for a female. The apparently unjust discrimination arises from two causes: The older male teachers, those whose wages are highest, have more frequently families to support than the females; the supply of the latter is much greater than of the former, and their services can be obtained for less money. A very large number of ladies find employment as public school teachers in England. No part of the English system appears to me more worthy of imitation than to pay according to success. And the teacher has usually a very competent judge to decide whether he has succeeded, as the inspectors are always the best educated men that can be had, and the position is so well paid that men of ability seek it. Besides, his relation to the teachers of his district is such that he can have no interest in keeping any of them back. It is too often the case under our system of union schools that boards feel themselves limited in the expenditure of money; and in such cases, the superintendent, if a shrewd manager, succeeds in getting the lion's share, while the remaining teachers are put off with what is left. And yet the schools are probably none the better for the disproportionate salary and the nominal oversight. From the commencement of his career the English teacher has before him strong incentives to do well, and he may win prizes in two or three different directions each year.

The English system is largely based upon the German, though that has not been slavishly copied. The English people deserve great credit, not only for the zeal with which they have recently entered upon the improvment of public education, but also for the judgment they have shown in adopting whatever is good in the systems of other countries. Consequently the uniform improvement of their schools has been greater in five years than that of Ohio in four times five, though Ohio has doubtless some as good schools as England's best.

Carlyle says that: "If the devil were passing through my country, and he applied to me for instruction on any truth or fact of this universe, I should wish to give it him. He is less a devil, knowing that three and three are six, than if he didn't know it; a light spark, though of the faintest, is in this fact; if he knew facts enough, continuous light would dawn upon him; he would (to his amazement) understand what this universe is, on what principles it conducts itself, and would cease to be a devil!"

THE HIGH SCHOOL: ITS RELATION TO THE LOWER GRADES OF PUBLIC SCHOOLS.

BY JOHN HANCOCK, PH.D.

No school system can effectually meet the object of its creation which does not embrace in its constitution provisions for carrying the education of youth beyond the common branches. With one hand the high school beckons the pupils of the elementary schools to come upward to its more elevated outlook, and with the other it points its own students to the still higher outlook of the college. Lacking the high school, the pupils of the lower schools would lose a chief incentive to exertion. Build in front of him at the very start of his career an impenetrable wall, barring all future progress, and the motive to activity is gone. His life at once begins to shape itself to lower aims, and he grows content to be a small creature. On the other hand, with a good high school to crown the public school system, there is provided for every child, even the youngest, a potent and ever-acting incentive to push forward. Each promotion in grade comes to be regarded as but another step in the upward march to the high school. Of course the larger number of pupils fall out by the way, but most will have climbed higher, and have done their work better, from having had their eyes fixed on the goal. The atmosphere of a generous equality comes to pervade the community, and the poorest and most neglected child is led to feel that there is something in the world for him to do which shall be well worth the doing.

The course of study, too, for the lower schools is certain to feel the influence of the high school. This course is too often afflicted with a fearful leanness—built on the principle that the three R's, and but little of them, are sufficient to meet all the educational needs of common people. In forming a curriculum for the lower schools, the liberal spirit begotten of the high school is sure to furnish here and there a new element—a germ of growth which shall develop with the advancing civilization and culture of the community—nay, rather shall be the chief cause of this advance in civilization and culture. In other words, the course of study for the elementary schools, instead of being a meagre, dead stalk, becomes a living growth, full of sap and vigor.

But perhaps the influence of the high school upon the lower schools is exerted most powerfully in providing for them a class of teachers of a higher grade of qualification than it was possible to secure under the former order of things. No argument is needed to show the utter vanity of all schemes of public education which at the same time fail to place a competent teacher in every school. The high school cannot give us professionally trained teachers—the supplementary work of the normal school is required for that—but it does give us teachers whose views have been broadened and love of knowledge deepened by some taste of a liberal culture. Nor is this taste so slight as some might be inclined to think; for it should be remembered that the high school of to-day, as constituted in most of our large towns and cities, gives a better education in the sum total than did the average New England college fifty years ago.

And this higher education of teachers as a class renders possible the successful introduction into the lower schools—especially into the primary departments—of those improved methods of instruction which have lifted teaching from something less than an empiric art to the level of a science, and are doing more than any other agency to make knowledge loved by the whole people. Without the character-training and resources which come to our teachers from a high school education, these methods would prove an utter failure, or degenerate into a mechanism more lifeless than the worst mechanism of the dreadful past; for it may be stated as an educational axiom, that intelligent methods can be applied by intelligent teachers only. Machine methods are necessary wherever machine teachers are found.

GLEANINGS FROM FITCH.

Variety and versatility are of the very essence of successful teaching.

You teach, not only by what you say and do, but very largely by what you are.

No one can teach the whole, or even the half, of what he knows. If you want to teach well the half of a subject, know first for your self the whole, or nearly the whole, of it.

For all lessons which do not lie in the ordinary routine, the careful preparation of notes is indispensable. The moment any man ceases to be a systematic student, he ceases to be an effective teacher; he gets out of sympathy with learners, he loses sight of the process by which new truth enters the mind; he becomes unable to understand fully the difficulties experienced by others who are receiving knowledge for the first time.

When your strictly professional work is done, follow resolutely your own bent; cultivate that side of your intellectual life on which you feel that the most fruitful results are to be attained.

Notes and News.

ONTARIO.

Of the 44 candidates from the Seaforth high school who wrote at the recent examinations, 35 or 79 per cent. passed. The record stands 4 A's, 3 B's, 13 thirds, and 15 intermediates. The school is only five years and a half old.

Daniel Hetherington, of Fullarton, has been appointed principal of the St. Catharines public schools.

Listowel high school received $311 government grant for the last half year.

In the Mitchell public school Miss E. Marty and Miss E. Hutchinson have been engaged for the fifth and sixth departments respectively at salaries of $300 and $270.

At the Goderich high school 32 out of 39 candidates were successful at the late examination.

Mr. F. W. Sellars, late principal of the Brucefield public school, has resigned, and Mr. Charles McKay has been appointed to succeed him. Mr. Sellars is a graduate of Ann Arbor, and goes to Michigan to enter on the practice of medicine.

At the Clinton high school about 40 candidates wrote, and 34 were successful at the last examinations. The report gives 2 seconds, 15 thirds, and 17 intermediate.

Alex. Crichton, B.A., silver medallist in classics at Toronto University, has been appointed classical and English master in Seaforth high school at $800.

Dr. Smith, late of the first Presbyterian church, New Carlisle, Ohio, has been appointed principal of Demill college, Oshawa. Dr Smith was formerly pastor of St. Andrew's, Uxbridge.

Samuel Woods, M.A., formerly principal of Kingston collegiate institute, has been appointed principal of the Ottawa ladies' college.

Rev. J. May resigned his position as inspector of schools in the county of Carleton. He has subsequently been appointed immigration agent in the North-west.

Orillia can boast of a splendid school building, and the work carried on in it reflects much credit on the principal, Mr. Geo. McKee, and his assistants. In this school the half-time system is adopted in the primary class. Mr. G. McKinnel is second master, and he has been very successful in teaching bookkeeping to his class. The reading in Miss Lafferty's class is exemplary. The other teachers, namely, Misses Wainwright, Henderson, Cameron, Cooke, and Coleman, are earnest, effective teachers.

The Barrie separate school possesses a diligent and highly qualified head master in Mr. John Rogers. His class has been very successful in passing at the entrance examination, and the school is prospering under his care and the valuable assistance given by the Sisters who have charge of the junior departments.

A $3,000 school-house is to be erected at Decewsville.

As a class, school teachers are very little better remunerated than clergymen, although there is this in favor of teaching, that the time devoted to preparation can be utilized for other and more profitable occupations. But even this is no excuse for the low salaries paid in most cases. It would be to the advantage of the teachers as well as to the people to have trained and experienced hands remain in the profession. This, however, will never be the case so long as the remuneration is so inadequate as it now is. If, instead of rendering the examinations more stringent, and thus making it more difficult to gain admission to the profession, the educational department could devise some means of encouraging those who take to teaching as a life-work, much greater good would be accomplished. As it is, it is simply passing strange that the two professions which are of paramount importance to the well-being of society are the very ones which are the most poorly remunerated. This is an anomaly which should not exist, and which will, we hope, be very soon wiped out, as its existence is not creditable to us as a people.—*Huron Expositor.*

Ingersoll high school prospers under the head-mastership of F. W. Merchant, B.A. Full classes are formed for all grades of certificates, and for junior and senior matriculation Miss Ella Gardner, a pupil of this school, passed with honors in French, German, English, and history at the recent second year examination of Toronto University. The name was first on the first-class honor list in English.

The several departments in the Barrie model school, under the experienced and skilful management of Mr. W. B Harvey, head master, are in a highly creditable condition. In the primary class, which is under Miss Burd's care, the half-time system is adopted—one-half the room alternating with the other in lessons and play. In the second class, under Miss Eva Lee, the children, among other subjects, show a very intelligent knowledge of geography, and the filling in of blank maps. The discipline of the schools is remarkably good, and the wholesome manner in which it is exercised may be inferred from the fact that since Mr. Harvey's appointment not a single complaint was made to the School Board. The head master is fortunate in possessing an excellent staff, namely, Mr. R. R. Jennison, second master, and the Misses Lee, King, E. Lee, Boys, and Bird.

In the West Ward school, Barrie, Mr. J. B. Carruthers is doing excellent work. He is assisted by Misses Watson, Todd, and Clara King. The East Ward school is under the efficient control of Miss Appelbee.

Industrial drawing is a special feature in the Nottawa public school, of which Mr. W. A. Furlong has been the respected teacher for 16 years. In addition to the instruction comprised in Walter Smith's Primary Manual, some of the pupils are taught sketching. The children in the primary class exhibit excellent specimens of figures copied from the drawing cards and blackboard, and seemed to take pride in their work.

Mr. R. H. Luck is making good progress as principal of Beeton public school. He is an energetic teacher, and has earned the esteem of the trustees.

Vocal music is cultivated very successfully in Ayr public school, which is under the principalship of Mr. G. D. Lewis. The school has improved in many respects lately, chiefly in attendance, which is due to the increasing prosperity of the village. The Misses Cameron, Renwick, and Crozier are very diligent teachers.

An improvement in the school building is much needed in Drumbo. Mr. A. S. Bueglass is principal, and is assisted by Miss Holmes. The attendance has increased lately, and is rather more than can be accommodated with convenience or good results.

It is expected that an improvement is about to be made in the high school building, Park Hill, which will give the head master, E. M. Bigg, M.A., better facilities for carrying on the excellent work he is engaged in. Twelve pupils were candidates for intermediate examination. Mr. Darrach is much appreciated as assistant. Mr. Bigg is also principal of the public schools; Mr. W. S. McBrain has the 4th class, Miss Spencer the 3rd, Miss Taylor the 2nd, and the primary classes are under the care of the Misses McLeod and Baxter.

The children of the Ancaster public school give an entertainment every year. The proceeds are devoted to supplying them each with a present, generally taking the form of a book. The school is in a very flourishing condition under the head-mastership of Mr. W. R. Manning, assisted by Misses Ryan and Taylor.

Since the appointment of Mr. J. A. P. Clark to the principalship of Stayner public school much satisfaction has been expressed at the progress made. He is well assisted by the Misses Robertson, Logan, and Craig.

Dundas is badly in want of increased school accommodation. During the winter months it has been found necessary to adopt the half-time system with some divisions. This reduced the attendance from 766 to 620, whereas there are only seats for 504 in all the schools together. It is to be hoped that the trustees will see their way clear to supply this serious deficiency soon. As far as work is concerned the schools are in a thoroughly sound condition. J. D. Bissonnette, B.A., is a most energetic principal. He is assisted in the high school by L. A. Kennedy, B.A. The public school has a very efficient staff, consisting of Messrs. J. W. McLeane and Chas. Roberts, and Misses Young, Somerville, Knowles, Scott, Laidlaw, McFarlane, and Clark. Miss Young is leaving after sixteen years of work in these schools, and Miss McGorman has been appointed to enter on duties as teacher after the summer vacation. There is an excellent Literary Society in connection with the schools which has a capital museum containing many fine geological, ornithological, and other specimens, besides many curiosities. With more room and better means of displaying its specimens this collection would soon become a most useful and attractive institution. The teachers have been most energetic in forming and arranging the museum, and deserve all the support that the people of Dundas can give them to make it a thorough success.

The Berlin Central School passed fifteen pupils into the Berlin High School at the recent Entrance Examination. Elmira passed 10, three of them being at the head of the honor list; Waterloo 6, Winterborn 4, Doon 4, Conestoge and 14th Wellesley each 2, Heidleberg, Hawksville, Erbsville, St Jacobs, Yatton, and Redhill each 1. The people of Berlin have reason for gratification that their school makes such an improved record on some preceeding years.—*Berlin Daily News.*

The Executive Committee of the Durham Teachers' Association met at Bowmanville, on Saturday Sept. 8th. Present, Messrs. Tilley, Gilfillan, Goggin, Reynolds, Barber, Keith, and Stirling. The convention will be held Oct. 19 and 20. G. W. Ross, Esq., M.P., will be present both days, and lecture on "Cultivation of the National Sentiment" on Friday evening. Particulars in circulars.

At the July examinations Orillia passed 21 candidates—Second Class, three A's and one B, seven Third Class, and ten intermdiates.

We regret that we have been unable to collect the results of the late examinatious in many schools. If our friends will forward them at once they will appear next month.

One of the series of Township Institutes, organized by D. P. Clapp, B. A., Inspector of Schools for North Wellington, was held at Glenalban, Peel Township, on Friday 22nd June. The Inspector was called upon to preside, and the affair was a complete success. There was a fair attendance of teachers and the resident clergymen, Rev. B. Sherlock of the Methodist, and Rev. Mr. Morris of the Presbyteaian Church were present, together with some of those from the village and vicinity who were interested in educational matters. The teaching by members with the criticism thereby evoked, and the discussion of essays, occupied the whole of the day, which was very pleasantly and profitably spent.

The Kingston Collegiate Institute has been recently reorgnized, and enters upon the present term with an able staff of teachers, all specialists in their respective departments, and all new with the exception of the efficient Principal, A. P. Knight, Esq., M.A. From the personnel and high educational standing of the entire staff, we predict for the institute a most successful career, surpassing even its palmiest days. We notice that a very important subject has been added to the curriculum,—namely, "Short-Hand," which is fast becoming a necessary part of the education of both boys and girls.

A vigorous article appears in the last issue of one of the leading educational journals attacking the management of the Collegiate Institute of this city. We do not know that there is ground for the charges msde, but the fact that they have been made in a journal of educational standing is a reason for some attention being paid to them by those most interested. The Collegiate Institute is the most important public school in the city, and in the interest of education such an article should not be passed by in silence. The charges are in brief that "old-fogeyism" is tne order of the day both on the part of the board of trustees and of the teaching staff. —*Telegram.*

MANITOBA.

A convention for the election of three members to represent the graduates of the University of Manitoba was held on the 22nd of August.

On the same day the University Council met at the call of the Chancellor, who is appointed one of the trustees of the estate of the late A. K. Isbister, to take into consideration the conditions of the bequest and to express a due sense of the munificence of the donor in making liberal provision in his will for the advancement of education in the Province.

The public schools opened on Tuesday, 21st August.

Two new school-houses will be opened by the Protestant Board of School Trustees of this city at the beginning of the new term, and three additional teachers are called for to meet the demands of the increasing attendance, one of them to take the assistant's position in the collegiate department.

An election of school trustees for the city was held on August 3rd, in accordance with the late Act amending the school law. The old members were nearly all re-elected, and at the first meeting of the new board Stewart Mulvey, Esq., was duly elected chairman.

The examination of teachers for certificates was held August 7th at Winnipeg, with an attendance of ninety candidates; at Brandon, with twenty-seven; Pilot Mound, twenty-two; Birtle and Minnedosa, about twenty each. The examiners have not yet concluded their labors.

NOVA SCOTIA.

The fourth annual meeting of the Provincial Educational Association was held in Halifax on the 11th and 12th of July. Mr. Alex. McKay, professor of mathematics in the Halifax high school, and Mr. A. J. McEachern, of the county academy, Antigonish, were unanimously elected to the posts of secretary and assistant secretary. Prior to the formal opening of the session a large number of members had enrolled themselves.

The first business transacted was the presentation of reports from the Executive Committee and the committee appointed the year before to further consider and revise the proposed course of study for high schools. The report of the former committee epitomized the necessary business of the year of an *ad interim* character, and embraced the programme of exercises about to be submitted; that of the latter was presented in the shape of a printed curriculum. By eleven o'clock the spacious hall in the Freemasons' building—the place of meeting—was crowded to the doors. Principal Calker, of the provincial normal school, having taken the chair, the Superintendent of Education proceeded to deliver the opening address, in which the chief topics discussed were the relation of general to technical education, and the proper equipoise of competing studies in an advanced scheme of public instruction. He contended that as practical educationists they were in duty bound to see if there was any good ground for the complaints so generally urged that education among us has concerned itself too exclusively with groups of subjects, which though susceptible of much ingenious analysis and classification, are still adapted to contemplative rather than practical business purposes; with the critical study of absolute political ideas, and the evanescent opinion developed centuries ago by passing circumstances; with the nicetics of language, and the curiosities of literature; with the names and dates and genealogies of infinitesimal beings, whom accident once thrust into prominent positions, but whose lives touch not at a single point the needs and the duties of the present hour, rather than with studies which would open up new capabilities for promoting human comfort.

Those urging this claim could certainly find in the history of education a reason why it should not be thrust aside simply because it proposed something *new.* The history of education was the record of great waves of change successively rolling in on the established order of things. Old systems and appliances are found unsuitable and useless in periods of intellectual revolution. A new order of ideas calls for new methods of propagation. The "Clouds of Aristophanes" was referred to as a case in point. The immortal productions of that poet, with their sparkling humor, all their thrilling lyric music, were after all but the impotent protests of a man of genius, out of sympathy with his times and unable to comprehend the irresistible progress of events. That "new education" against which this gifted conservator of old forms and ideas polished his wit and tuned his lyre came in despite him, and however much subsequent events have modified it, the world feels its influence still, and will continue to do so till the names of Socrates and Plato are forgotten.

And so at no time can we positively affirm that the wants of the age do not demand some modification of the stereotyped instruments of education. The ancient classics themselves, about whose utility so hot a controversy now rages, were brought in on the crest of a great revolutionary wave, and whatever be their merits as educational instruments now, none can doubt that they aided in accomplishing one of the grandest forward moments ever made in the intellectual life of man. After considering in detail the appeals made in behalf of technical instruction in connection with common school work, the Speaker closed up this part of his subject as follows :—

"If the demand made upon us be that in our public schools the youth should receive just as fair a start towards the special study of, say, agricultural science as towards the study of any of the so-called non-productive professions, it is an eminently reasonable demand. It is to be urged that even yet in our curriculum the studies which have relation to practical pursuits are too much jostled and crowded by subjects which, having originally got their places by accident, retain them not by virtue of relative educative power or utility, but by mere prescription. Let us with candor admit the possibility of the criticism being founded in justice. But if we are asked to turn out accomplished agriculturists and mechanicians, we are asked to do a palpable impossibility. Why, look at our colleges? They pick up our boys at the most advanced stage of our public school work; they subject them to a four years' course; they examine them and re-examine them; they take them through literatures ancient and modern, through sciences various, through the fiery furnace of mathematics and the spongy bog of metaphysics; and yet they do not profess even to have made them doctors, or lawyers, or clergymen, but only to have fitted them to begin to study to be doctors, or lawyers, or clergymen. It ought to satisfy all reasonable friends of technical education if we turn out of our common schools boys ready to enter special schools organized for the purposes of technical education, ready by virtue, not only of their general training, but also and especially by virtue of that impulse towards untried pursuits which we may hope it will soon be in the power of all our schools to impart."

On the subject of high school studies the speaker carefully balanced the claims of modern literature and science and the ancient classics. To the latter he expressed strong attachment, but freely recognized that they could no longer be taught in the same methods, or defended on the same grounds, as when they locked up the whole treasure of the mind. It was stupid conservatism to adhere to what has plainly outgrown its usefulness. He asked for the new course liberality, breadth, adaptation. Let the classics be taught, not as the sole intellectual instrument of our rising youth, but as a valuable means of mental discipline. In conclusion, after bidding his hearers to keep in mind the practical tendencies of the present day and the wisdom of adapting themselves to them, he exhorted them also to remember that the words of the Divine Founder of Christianity, "man shall not live by bread alone," have an intellectual as well as a spiritual application, and that science, art, and industry have their chief inspiration in the gratification of tastes which nothing but long processes of general culture could have created.

The next paper read was by Professor Caldwell, of Acadia College, on "Science in Schools" After dilating on the advantages of education in every walk of life, he proceeded to enforce the idea that education should be promoted by all available means, and that it was fitting for everybody to obtain all the mental culture within his reach in order that he might be of more commercial value in the world, and that he might stand higher in the scale of being further removed from the brute creation towards the supreme intelligences. The stimulating and directing of the youthful intellect was considered and the best modes of effecting it. He believed in the intelligent mastery of a few subjects rather than an attempt to cover the whole field of knowledge. He thought a large amount of teaching was unproductive because unnatural, not taking into account the natural order of mental developmsnt. In youth, curiosity, imitation, and memory are predominant; later in life reason and judgment are mature. A sound system of education would follow this line of natural development. Let the child learn grammar by imitation rather than by rule. These general ideas were enlarged upon and elucidated in detail. The difficulties of the average child in learning were instanced, and the best methods of profiting by natural capabilities for the greatest advantage in imparting instruction, according to the speaker's opinion, shown up. He thought primary instruction was confined far too much to rules and text-books, without sufficient explanation of the why and wherefore. The various requisites of a good teacher were pointed out, and the benefits of the Acadian Science Club, a worthy Wolfville institution for aiding teachers in acquiring scientific knowledge, were given a lengthy exposition. He instanced a method of instructing pupils in such a science as geology, and closed with an appeal to teachers to pay more attention to the careful and considerate instruction of youth.

Mr. S. K. Hitchings, State assayer of Maine, was called upon for an address, and occupied a few minutes before closing the session in some account of the high school system under the American flag, which were very acceptably received.

In the afternoon the association went on a scientific excursion about the harbor, arm, and basin in Mr. Waddell's commodious steam lighter, the Robbie Burns. Mr. McKay, of the Pictou academy, delivered a highly edifying lecture on board on the subject of botany, with illustrations of numerous specimens collected at points touched at. A most interesting little botanical expedition was made in the grounds at the head of the N. W. Arm.

(The conclusion of the association's proceedings will be given in next month's notes.)

Mr. John A. Smith (A.B., Mount Allison college, provincial grade A, 1883) has been appointed head master of the model school, Truro.

UNITED STATES.

In the public schools of Ohio 98,691 scholars are taught the alphabet, 642,748 reading, 653,363 spelling, 528,417 arithmetic, 221,051 grammar.

The school authorities of Juniata, Adams county, Nebraska, have introduced reading the daily newspapers in the schools, instead of the Readers so long in vogue. The plan is said to work well.

Kansas owns 5,555 school-houses, worth $5,000,000. It has a State university, a State agricultural college, two normal colleges for the education of teachers for the public schools, a college to teach the deaf and dumb to speak and the blind to read.

The Board of Education of Cleveland have in consideration a measure to discontinue the services of women as principals of public schools. The Cleveland *Leader* does not believe that there is any good reason for such a step. No fact, it says, has been more completely established in this age of common schools than that ladies make competent and successful teachers.

Overwork in schools is not confined to this country; there are serious complaints of it in England. A gentleman wrote a letter a few weeks ago to the Liverpool *Mercury*, in which he criticized severely the schools of Liverpool for over-teaching. The day's study, he says, begins at 7.45 a.m., and lasts until 8 p.m. Besides this, the evenings are supposed to be devoted to study at home, and there are no holidays on Saturday.

Miss Pingree, the superintendent of the Boston free kintergartens, has written a letter for the Kintergarten *Messenger* which is an interesting review of what the Boston kintergartens have accomplished. There are at present thirty-one free kintergartens for poor children in and near Boston, carried on by the private charity of one lady. Four of these kintergartens began their work in 1877, during 1878 and 1879 fourteen others were started, and in 1880 the remaining thirteen.

Girard College, which has already grown to noble proportions, has quite recently entered upon a new branch of educational work. It is training its boys to fit them to become mechanics and manufacturers. The education in mechanics and the use of hand tools will be of value to them, even if they should enter upon the learned professions of becoming clerks or bookkeepers. It is such a development of the educational features of the college as we might easily imagine a man of hard sense like Girard to heartily approve if he were living.

The expense imposed upon society to protect itself against a few thousand crimnals, most of whom were made such through the neglect of society to take care of their education when young, is one of the heaviest of the public burdens. *In the city of New York it is fifty per cent. more than the whole cost of the public schools.—Dexter A Hawkins.*

Dr. McCosh has presented a proposition to the trustees of Princeton to start a school of Philosophy. He wishes to have this Department in charge of three other professors beside himself, and asks for $150,000 in order to carry out the scheme.

ONTARIO TEACHERS' ASSOCIATION.

The twenty-third annual meeting of the Ontario Teachers' Association was convened at the theatre in the Educational Department on the morning of Tuesday, Aug. 15th. Mr. MacMurchy called the meeting to order shortly after 11 o'clock, and the proceedings were opened by the reading of a portion of Scripture by Mr. White, after which Mr. Brebner, of Brampton, led in prayer. Mr. Campbell was appointed secretary of the minutes of the convention.

Communications were read from Provost Body, Prof. Marshall, and Prof. Goldwin Smith, in which each of these gentlemen regretted that being in Europe they were unable to deliver addresses at the time requested.

THE TREASURER'S REPORT.

The Treasurer's report showed that the association was at present in a better financial condition than at any previous time. The receipts during the year amounted to $650.06 and the expenditure to $165.35, leaving a balance of $484.71.

On moving the adoption of the report the Chairman said money was the sinews of war, and if the work of the Association was to be carried on successfully it would be necessary to have funds. He was pleased that the report was so satisfactory. The report was adopted.

Mr. MacMurchy stated that Dr. Goldwin Smith had sent an invitation to the members of the Association to meet this week at the Grange. They had decided to accept the invitation for Thursday afternoon.

LITERATURE IN SCHOOLS.

At the afternoon session, after the reading of minutes, the following paper on "Literature in Schools," by Mr. D. G. Goggin, Port Hope, was read:—No power is capable of doing more for schools than literature, if we understand by it the works of the best writers. To feel thus the influence of literature thoroughly we must begin at an early age with such prose and poetry as children can then comprehend, and from this go on gradually until the works of the great masters can be read, not only in, but out of the school, and appreciated. These are the words of one of America's greatest educationists. By far the larger number of pupils leave school without going further than the fourth class or without entering a high school, where the study of literature proper now begins. I hold that we should introduce into the Public Schools programme a course in literature that will enable those who proceed no further to leave with a fair knowledge of a few great authors and with a taste for good reading formed. We ought to open the road and start the pupil on the way, else for him it is a sealed book. We have fed him too long on scraps. Our reading books, containing a mass of short extracts with little if any order in their arrangement, have been our only means of forming our pupils' tastes or interesting them in any author, and the sixteen lessons chosen for special study cannot by any stretch of courtesy be said to have accomplished either; and just a chapter or two of one author or a poem or two of another, often, indeed, but a mere fragment of a poem, with rapid transition from author to author and from age to age, will leave most pupils confused rather than inspired. I had hoped some time since that when the change of reading books became necessary it might be possible after the Third Reader to substitute for the Fourth and Fifth Readers one complete and characteristic work of each of say six authors. By this means the pupils, instead of knowing, as now, almost nothing about many authors, would know considerable about a few, and would be inclined to extend this acquaintance. In Boston they have gone even farther than this, and believing that the lesson should lead the child to take to reading as a recreation and amusement first, and later on as a means of agreeable knowledge, have introduced into the 2nd and 3rd classes a two-fold series of popular tales. The superintendent remarks:—"I have seen children read these tales as I never before saw them read anything in a primary school." If we could make for the 4th and 5th books the substitution I have suggested I am satisfied that we could do far more than we now do to form that intellectual taste which is a young man's best companion and protection through life. The substitution is now hopeless, since the new Readers, though certainly in advance of the old, follow in the main the same plan, and are excellent scrap-books, and not much more. Surely in the wide field of literature there is some complete work of an eminent author suited to the age and attainment of our pupils. Surely the pupils will take more interest in this work than in the selected lessons.

LITERATURE IN AMERICAN SCHOOLS.

In Boston a select number of books for supplementary reading has been provided by the Board in sets of 35 for the High Schools and 56 for the Grammar Schools. They are used for slight reading, and at different hours of the day, so that the one set supplies several classes in the same building. They may be taken home at night and returned in the morning—a certain number of pages being assigned by the teacher. Next day the pupils are required to tell in their own words the story they have read. They discuss the character introduced, and note carefully the construction of the story, and acquire the use of language by using it. Ostensibly to beautify the walls of the school-room, it was proposed some years ago that each pupil who chose should contribute not more than ten cents each half-year. With this some pictures of Longfellow, Bryant, Whittier, Tennyson, Scott, Shakespeare, and others were purchased and hung. Flower pots and hanging baskets completed the first part of the plan. Then, incidentally as it were, each teacher began to talk about the man whose portrait hung on the wall, telling stories about him to encourage the pupils to find out from their parents or books other stories respecting him. Next an offer was made to read on Friday some interesting story that he had written, provided that certain school tasks were performed during the week. Then some gem selected from the story or poem was written on the board, its meaning fully brought out, the substance of it given by the children in their own language, and finally it was committed to memory. So popular did this work become with both teacher and pupil that an hour previously allotted to reading and composition was set apart each week for it, and an attempt made to obtain a fair knowledge of a few authors and to commit to memory some of their choicest thoughts. As time went on the work widened, and now the senior third class studies Whittier, the junior fourth (girls) studies Longfellow, while the boys read "Tom Brown at Rugby" and two or three of Longfellow's poems. The senior fourth studies Bryant and Scott; the fifth Tennyson and Dickens.

A vote of thanks to Mr. Goggin was passed for the paper.

MORAL EDUCATION.

A paper by Mr John Millar, St. Thomas, on "Moral Education," was read. Following is a *résumé* of the paper:—The constant discussion to which the various features of our system of education are subjected is a hopeful sign. As teachers we have been accustomed to watch carefully public sentiment. We cannot afford to disregard the objections which are occasionally raised against our schools. It would be folly to give no attention to the suggestions offered by clergymen and others, who are co-workers with ourselves in the great cause of education. In the public press and in synods and conferences the religious and moral aspect of our system has engaged much attention. The use of the Bible has been the leading topic discussed. This and those akin to it in the great subject of education may be examined under three heads: (1) The province of teachers; (2) that of the State, and (3) that of the Church. The ultimate object of the teachers' profession is not, it should be observed, the training of mind, but the training of man. The vice of most systems of education is one-sidedness The human faculties are many, and provision must be made to meet the wants of the moral and religious as well as the physical and intellectual parts of our nature. The vast majority believe that moral instruction should be based on Christian principles. A few consider that moral training may be conducted without any regard to religion. Indeed, occasionally one may be found to maintain that even the atheist should not be debarred from teaching school. The law is quite clear on this point, and it is satisfactory to have the decisive opinion on the question from the Minister in his last annual report. To teach morality on any other basis than that which accords with Christian doctrine would be a violation of the school regulations as much as to neglect the teaching of English grammar or arithmetic. Certainly the parent is responsible for the religious training of his child. Our school system is the result of a compact, by which the parent delegates a portion of his duty to the teacher, who, as a public officer, performs his work in harmony with the terms of the agreement entered into between the parent and the State. About many religious topics the teacher must speak if he feels, and if he does not feel he is no teacher. The teacher cannot separate his personality from his instruction. What he is tells far more upon his pupils than what he says. Our teachers should be persons whose conduct, both in and out of school, should be above reproach. Moral teaching to be most effective must be a silent teacher.

SCHOOLS NOT RELIGIOUS INSTITUTIONS.

Our national schools and colleges are not religious institutions, but they are institutions of a religious people. We do not write God in our legal enactments, but we inscribe His name on the tablets of our hearts. Canada is not behind the neighbouring country in its recognition of religion. He who would remove the Bible, the grandest code of ethics, from the teacher's desk, little understands what has made our system of education so popular. "Christianity is the basis of our system of education," is the language the venerated Dr. Ryerson uttered some 30 or 40 years ago. The Minister of Education gives confirmation to the same view. "To say that the State," remarks the Rev. Dr. F. L. Patton, "cannot recognize religion because it cannot confer exclusive privileges on a particular form of religion, is absurd. To say that we may not be a Christian nation because no single denomination of Christians can lay claim to precedence, is also absurd. Because we cannot Presbyterianise the State it does not follow that we must atheise it. Our law on this question does little more than assert that Christian morality shall be taught in our schools. The nature and extent of the moral training are left to be decided by each locality. We should hesitate before changing the optional principle in the matter. Of the 5,230 schools in operation in 1881 we find 4,501 of them had the daily exercises opened and closed with prayer. The regulations enjoin that "no person shall require any pupil in any Public School to read or study from any religious book or to join in any exercise of devotion or religion objected to by his or her parents." We have, nevertheless, regulations of a recommendatory nature on the subject, with forms of prayer, etc. As the regulations are not compulsory, does it not speak well for public sentiment to find 85 per cent. of the schools of Ontario doing even so much under the voluntary plan? The ministers of the deputations who brought up the question of using the Bible in school were not definite or agreed as to the amendments proposed. The present law, it is held, practically removes the Bible from the schools. The trustees have the remedy in their own hands; no change in the law would give them any advantage. The voluntary principle is in harmony with our entire system of self-government, and the strongest argument in its favor is that it has worked well. Training in Bible lessons should go on with geography, history, and every other subject on the time-table. If a series of Bible readings were prepared by a competent committee, it would, I think, come into general use.

ATTITUDE OF THE CHURCH.

Suggestions from the clergy are always in order; the Church should rule the State. Both Protestants and Roman Catholics are opposed to a non-religious system of ethical instruction, but they have antagonistic views regarding the means by which moral instruction should be conveyed. Have the religious bodies interested made any request to the trustees of any school section which did not receive respectful consideration? Have they urged the reading of the Bible in any locality where it is entirely neglected? Where it is only read by the teacher, have the clergy urged that it should also be read by the pupils? In how many places have the ministers of different bodies taken advantage of the present law for the purpose of giving religious instruction to the children of their own denominations? If the clergy have not taken any steps in their own localities to remedy what they regard as a defect, I fail to see any necessity for any general movement for securing a change in the law. Our institutions will never be "Godless" if the Churches do their duty. Those who are friendly to our system of education will do well to consider carefully the injurious effect of all efforts to establish Separate Schools. If I were to give advice to any religious body it would be to support, from the Public School to the University, the religious but undenominational character of our school system. Let us not, however, forget the essential features which have characterized our system; and while steadfastly maintaining the ground that morality should be taught on a religious basis, let us not render that basis denominational.

THE BIBLE IN SCHOOLS.

A discussion followed the reading of this paper, in which many of the teachers present participated. It was finally decided to leave the report to the consideration of a committee appointed by the Chairman. The committee appointed by Mr. MacMurchy was: Messrs. Maxwell, McKinnon, Alexander, Strang, McHenry, and McAllister.

SPELLING REFORM.

The next subject taken up was "Spelling Reform," which was introduced by William Houston, M. A., in a conversational form. After dwelling briefly on the general interest which all classes of the community should feel in the simplification of English spelling, and the special interest which the subject ought to have for those who are compelled to waste a great part of their time in teaching children how to spell and read, he traced the defective spelling of English words to the defective character of the English alphabet as its primary cause. The elementary sounds used in the spoken language are variously estimated at from 40 to 42, while the effective letters to represent these sounds number only 23. One way of supplying the deficiency is to make one letter represent two or more sounds, another is to use such orthographical expedients as doubled letters, digraphs, and other combinations. If these devices were used consistently the irregularities in spelling would be much fewer than they are, but the fact that some sounds are represented each in several different ways makes the confusion worse confounded. Several methods of spelling reform have been proposed, which may be thus classified:—(1) *The invention of a perfectly new alphabet*, each character in which shall have a constant, individual value, and which should be phonographic in its nature; (2) *the addition of from seventeen to twenty new letters* to our present alphabet, and the consistent use of this enlarged system of characters; and (3) *the elimination of such irregularities and redundancies as can be got rid of without any alteration of the alphabet.* The last method was the only one discussed on this occasion. In reply to the taunt sometimes levelled at spelling reforms,—Why do you not set about reforming your own modes of spelling if you believe in them? Mr. Houston drew a broad distinction between a moral principle and mere matter of convenience. Those who advocate a principle on moral or conscientious grounds should be prepared to act on them from the outset. It is different with spelling reform. It is more convenient that the written words in which thoughts are clothed for purposes of inter-communication should keep as generally as possible the same form, no matter who uses them. If each reformer were to follow a line of his own the confusion would be increased; if by discussion a certain line of change can be definitely agreed to by the majority of educated men, they can by adopting the new spelling force its use on the minority, and thus lessen the confusion instead of increasing it. The endeavor to secure concerted action has led to the formation of Spelling Reform Associations in England and the United States, and a similar Association has recently been organized in Toronto, under the title of the "Canadian Spelling Reform Association." The English and American societies have so far acted in perfect accord, and the Canadian society proposes to act with them. Mr. Houston read over a partial list of the changes proposed to be made, such as dropping the silent letter in the digraph "ea" in such words as head, heart, spelling them hed, hart; dropping the "o" out of the digraph "eo" in such words as jeopardy, leopard; dropping the silent "e" when it is phonetically useless, as in live, vineyard, bronze, engine; writing "u" for "o" in such words as above, dozen, some, tongue; dropping "ue" in catalog, dialog, demagog, leagues, &c.; dropping silent "b" in such words as bomb, crumb, limb, dumb; dropping "g" in feign, foreign, sovereign, &c., &c. He urged teachers to join heartily in the movement, partly because it is sure to go on whether they do so or not, and it ought to be controlled by educated men, and partly because they have in their local association meetings a means of discussing the question which other spelling reformers have not. While he would not advise them to practise the reformed spelling in private on account of the danger from impending examinations, he protested against the capacity to spell well according to a complicated and arbitrary system being prescribed as a fair test of a man's educational attainments in English, and also against the prevalent mode of applying spelling tests in examination papers. Instead of giving a list of words, some of them correctly and others incorrectly spelt, and asking the candidate to make the necessary corrections according to the received standard, the examiner might give a list of words correctly spelt, and ask the candidate how the spelling might be improved etymologically or phonetically, or both. Such a question would be a far better test of a candidate's knowledge of English than a question of the usual stock kind. In the course of his remarks Mr. Houston gave numerous illustrations of the application of two general principles, which he laid down as follows:—(1) *Simplify spelling whenever it can be done by following more closely the etymology of the word*, and (2) *simplify spelling phonetically whenever this can be done without*

violating the etymology. By the operation of these rules proceed, exceed, and succeed would be conformed to accede, recede, concede, intercede, and secede; ascendant and resistance would conform to ascendency and subsistence; receive, deceive, conceive, perceive would lose the "i"; programme would be conformed to anagram, diagram, telegram, and monogram; island, rhyme, foreign, sovereign, ghost, aghast, whole, and while would become iland, rime, foren, sovern, gost, agast, hole, and hwile. Nouns ending in "o" would all form the plural by adding only "s"; all nouns ending in "f" or "fe" would form the plural either one way or the other; words ending in "our" would all drop the "u," etc. He also read lists of words from Milton, Spencer, and still older writers to show that old English spelling was much more phonetic than modern spelling, and quoted the explicit testimony of Mr. Skeat to the same effect, adding the explanation that in making their list of changes the Spelling Reform Associations aimed at restoring wherever it was practicable the old spelling. After an interesting discussion of the subject and a vote of thanks to the lecturer the convention adjourned.

THE PRESIDENT'S ADDRESS.

At eight o'clock the meeting was called to order and the annual address of the President, Mr. MacMurchy, was delivered. It dealt with education in Ontario and teachings therefrom. He said:—

The work to be done under any school law is threefold. *First*, to provide sufficient and suitable school accommodation; *second*, to enforce regular attendance of all children of school age at the schools thus provided; *third*, to adopt the necessary means to secure for the children thus assembled a complete and efficient education.

SCHOOL ACCOMMODATION.

On the first object, viz., school accommodation, I do not intend to say anything, except to state that very satisfactory progress has been made, and to express the conviction, which I have had for some years past, that too much attention has been paid to the material development of the schools—and slight interest taken in the well-being of the living agent—to the detriment of the progress of the country, since it is true for all time, like master, like school.

SCHOOL STATISTICS.

The population of this Province of the Dominion of Canada is now over 2,000,000, and by the last annual report (1881) of the Minister of Education the whole number of school children is 489,-924. From this number deduct one-seventh for those who are not likely to be found in the public elementary schools, and we have 419,935 as the numbers which would be taught in these schools. I may be allowed to express a doubt as to the accuracy of the returns in regard to the number of school children in Ontario. In Great Britain the number of school children between the ages of five and fourteen inclusive forms about a sixth of the population, but in Ontario the given number forms nearly a fourth. Another peculiarity is that while the whole population is increasing, the school population, according to the returns, is decreasing. I take the liberty of directing the attention of the inspectors to these features of our school statistics. Looking at the figures given by the annual departmental reports on education, I find that for the year 1858 the daily average attendance was 35 per cent. of the number on the roll, for the year 1868 the daily average attendance was 40 per cent., for 1880 46 per cent., and for 1882 45 per cent. So that apparently the average increase in the average daily attendance has been ½ per cent. Examining the last report issued by the educational authorities of the United States of America, I find that the percentage of the whole school children who attended school for the year was 34, whereas the daily average percentage of the number on the roll for the same year was 59 per cent.; in one city the daily average attendance of those on the roll is reported to have been 89 per cent. The school age in England and Wales is between 5 and 13; the percentage of the whole number of school children whose names were on the roll for 1881 was 70; the daily average attendance of those whose names appeared on the roll for the same year was 83.45 per cent., and is year by year becoming higher. For Scotland, where the school age is between 5 and 14, the percentage for 1881 of the whole number of school children expected to attend public elementary schools was 66, and for those whose names were on the roll the percentage of the daily average attendance for the same year was 79; also, as in England and Wales, this percentage is annually becoming greater. From these figures it is seen that we are far behind England and Wales, Scotland, and even the States of the neighboring Union in the matter of school attendance. Though the machinery provided is complete in all its parts, the learners are not in the school-rooms. Much more attention is required from trustees, inspectors, teachers, and parents, in order to secure the average attendance which has been obtained, without much difficulty, in other English-speaking communities. It is not at all creditable to us that our wealthy and populous Province of Ontario should be so far behind other countries existing under similar conditions in the essential requisite of prosperous school-keeping.

QUALIFICATIONS OF TEACHERS.

Having thus briefly, but as well as may be, considered the scholars and their attendance at school, let us look at the teachers: as respects their (*a*) literary attainments; (*b*) experience in teaching; (*c*) length of service. In all the public elementary schools there are 6,927 teachers engaged. By the last annual report of the Minister of Education they are classified as follows:—Number of teachers holding third-class certificates, 4,346; number holding second-class certificates, 2,059; and number holding first-class, 523; that is, the percentages of third, second, and first-classes, respectively, are 63, 29, and 8. You will observe no distinction is made between County Board certificates and those issued by the Minister upon the recommendation of the Central Committee of Examiners, nor is the number of those holding permits only excluded from the third-class. It is not satisfactory to observe that the number of those holding the lowest grade of certificate is continually increasing. Every legitimate facility and inducement should be afforded to teachers to improve the grade of their certificates, and to continue without interruption in the profession. To secure those worthy ends, the providing of residences for teachers would be of special value, as enabling a most desirable class to remain in the service; and not only so, but the tendency of such wise and fitting provision would be the lessening of the too frequent change of masters, which in the best interests of the country we all regret so much. I found it impossible to obtain any reliable information as to the average length of service of teachers in Ontario; I suspect it is comparatively very short. Some statistics can be given as to the longest period of service. Examining the list of those who are receiving the allowance from the superannuation fund, I find the following figures bearing upon the ages and length of service in Ontario of the recipients. Five consecutive years were taken. The average ages were 65, 65, 64, 63, 63; average length of service in Ontario was respectively for the same years, 22. From this it is manifest either that these men began to teach somewhat late in life, or that they had taught for years somewhere else. The professional life should at the very least be 50 per cent. more. A man is only at his best as a teacher between the ages of 40 and 60 or 65.

THE AIM OF THE TEACHER.

The training of a child should aim at the development of his whole nature, moral and religious, as well as intellectual. The being isone and indivisible; we should not attempt to split it.

Cleanliness of person, purity of manners, truth, honesty, kindness, respect for the rights of others, forbearance, carefulness, thrift, love and obedience to parents and teachers, are of great importance, and the earnest, conscientious teacher will never have them out of view. Every good school is more than a place for the acquirement of knowledge. It should serve as a discipline for the orderly performance of work all through life, it should set up a high standard of method and punctuality, should train to habits of organized and steadfast effort—should be, in miniature, an image of the mighty world. And education must ever keep in view the great principle that its highest object is the mental, moral, and religious elevation of the scholar, the evolution of all that is best and noblest in his powers and character. It must aim at the highest possibilities or its results will be failure. It must not be regarded as simply ministering to our selfish ends. Principal Dawson, of McGill College and University, says that no education worthy of the name can overlook the religious instinct of man, and the late Chief Superintendent of Education, Rev. Egerton Ryerson, said that "as Christian principles and morals are the foundation of all that is noble in man, as well as most prosperous in a country, it is gratifying to see the Public Schools avowedly impregnated with these to so great an extent, thus tending to build up a comprehensive system of Christian education." The case being so, how are we to realize this, the highest function of our life work? I know of no way, and the

world has not yet discovered, nor is it likely to find, any other way, but by Scripture reading and teaching of Bible precept. By religious and moral education I understand, not merely a set of Bible or religious lessons, or the regular and constant repetition in season and out of season of pious phrases, but the hourly training which is carried on in every lesson of the day. Nevertheless, though this is the case, I hold Bible reading in our Public Schools to be of prime importance, not for the teaching of doctrine, but for the teaching and emphasizing reverently of the great truths of our common Christianity. In the city of London, England, this is done most successfully. For the year 1882 the number of school children whose names appeared on the school roll for the city of London, at the date of the last examination for Scripture prizes, was 203,001. Of this number 158,134 were examined in the selected portions of Scripture for that year. "When it is borne in mind," says the Chairman of the School Board, "that all the infants, except one standard, are excluded, it will be seen that practically all the children in attendance were examined." Why should we not have a similar record for our Province? I take it, ladies and gentlemen, that this question of Scripture knowledge, moral and religious education, is the vital question for Ontario, yea, for the whole Dominion, in this and all succeeding generations.

A number of questions set the scholars at the late examination for Scripture prizes for the city of London, England, were appended to the address. A short discussion on the collection of statistics followed, after which a vote of thanks for the address was passed to the President. After receiving the reports of delegates the Convention adjourned till two o'clock on Wednesday afternoon.

NOTE.—Owing to pressure on our columns we are compelled to hold over balance of this report for next month.

MANITOBA TEACHERS' ASSOCIATION.

The Eighth Convention of the Manitoba Teachers' Association began in the Central School on Friday morning, Aug. 17th. The President, Ven. Archdeacon Pinkham, occupied the chair, and opened the proceedings with reading of the Scriptures and prayer. The members present were as follows:—

Ven. Archdeacon Pinkham, B.D., President; J. B. Somerset, Inspector of City Schools, First Vice-President; W. A. McIntyre, Secretary; Messrs. Fawcett, Garratt, Blakely, Hewit, Kerr, Eaton, Branford, D. McIntyre, and Misses Wright, Eyres, Inglis, Sharpe, Todd, Garwood, McIlroy, Johnston, Saunders, Barber, Hargrave, Roblin, Christie, Kerr, from the city teachers, and Messrs. Schaffner (Rapid City), Lent (Brandon), Montgomery and Acheson (Selkirk). Among others present, not members, were Messrs. Galton, Palk, Erskine, Ferguson, Bowerman, and Very Rev. Dean Girsdale.

The forenoon session was taken up with the reading and discussion of a paper by Mr. W. A. McIntyre, Principal of the Boys' Central School, Winnipeg, on

PRACTICAL EDUCATION.

We regret that our space this month will not admit of even a synopsis of this and other papers read. The remainder of the forenoon was spent in an animated discussion of the paper, and a cordial vote of thanks was tendered to Mr. McIntyre for his essay.

In the afternoon session, after routine business, the Rev. J. B. Silcox gave an excellent lecture on Pedagogics, on which another interesting discussion took place, bearing mostly on the dignity of labor and the best means of training children to respect it. The election of officers was next in order. The following were elected by acclamation:—

President, Ven. Archdeacon Pinkham, Superintendent of Education; First Vice-President, Mr. J. B. Somerset, Inspector of Winnipeg Schools; Second Vice-President, Mr. J. Houston, M.A., Portage la Prairie; Secretary, Mr. W. A. McIntyre; Treasurer, Mr. F. F. Kerr.

Five Councillors were elected by ballot as, follows:—Miss Archibald, Mr. E. A. Garratt, Miss Inglis, Mr. J. D. Hunt, and Mr. J. Fawcett, B.A.

On Saturday morning Mr. L. Schaffner, B.A., read a paper on Associations. After a lively discussion, the President then delivered his annual address. In the afternoon Mr. J. A. Houston, B.A., read a paper on "The Study of Higher English." Miss Wright read an essay on "Lady Teachers' Salaries," in which she fearlessly took high ground, and put the question of inequality of salary very pointedly. We hope by-and-bye to publish some of these papers in our Special Department.

Before closing a resolution was passed expressing appreciation of the bequest left by the will of the late A. K. Isbister for the advancement of education in this Province, to be expended under the control of the university. It is expected that the annual income from this source will be about five thousand dollars.

Readings and Recitations.

THE MODEL GIRL.

A practical, plain young girl;
Not-afraid-of-the-rain young girl;
A poetical posy,
A ruddy and rosy,
A helper-of-self young girl.

At-home-in-her-place young girl;
A never-will-lace young girl;
A toiler serene,
A life pure and clean,
A princess-of-peace young girl.

A wear-her-own-hair young girl;
A free-from-a-stare young girl;
Improves every hour,
No sickly sunflower,
A wealth-of-rare-sense young girl.

Plenty-room-in-her-shoes young girl;
No indulger-in-blues young girl;
Not a bang on her brow,
To fraud, not a bow,
She's a just-what-she-seems-young girl.

Not a reader-of-trash young girl;
Not a cheap-jewel-flash young girl;
Neither flippant nor lax,
Nor a chewer of "wax,"
A marvel-of-sense young girl.

A lover-of-prose young girl.
Nor a turn-up-your-nose young girl;
Not a slattern nor shrew,
But a "know what I do,"
And a matter-of-fact young girl.

A rightly-ambitious young girl;
Red-lips, most-delicious young girl;
A sparkling clear eye,
That says "I will try,"
A sure-to-succeed young girl.

An honestly-courting young girl:
A never-seen-flirting young girl;
A quiet and pure,
A modest, demure,
A fit-for-a-wife young girl.

A sought-everywhere young girl;
A future-most-fair young girl;
An ever discreet,
We too seldom meet,
This queen-among-queens young girl.

HO! REAPERS OF LIFE'S HARVEST!

FOR RECITATION.

(This poem was a favorite with President Garfield; it was a cause of great regret, he said, that he did not know the authorship.)

Ho, reaper's of life's harvest!
  Why stand with rusted blade
Until the night draws round thee
  And day begins to fade?
Why stand ye idle, waiting
  For reapers more to come?
The golden morn is passing,
  Why sit ye idle, dumb?

Thrust in your sharpened sickle,
  And gather in the grain;
The night is fast approaching,
  And soon will come again.
The Master calls for reapers,
  And shall he call in vain?
Shall sheaves lie there, ungathered,
  And waste upon the plain?

Mount up the heights of wisdom,
  And crush each error low.
Keep back no words or knowledge
  That human hearts should know.
Be faithful to thy mission
  In the service of thy Lord,
And then a golden chaplet
  Shall be thy just reward.

REVIEWS.

NOTES OF TALKS ON TEACHING, given by Francis W. Parker. Reported by Lelia E. Patridge. *New York E. L. Kellogg & Co*, $1.00 This is a book for teachers and for students of the theory and practice of teaching. It is a sketch—an instantaneous photograph, as it were—of a great living teacher at work teaching teachers. The artist, Miss Lelia F. Patridge, who made the sketch, was both intelligent and sympathetic; the genial, incisive, strong individuality of Col. Parker meets the eye everywhere, not less in the frontispiece than in the brief biography and the subject matter of the many and varied talks. These talks were made to members of the Martha's Vineyard Summer Institute, and extended through five weeks of the summer of 1882. In spite of all that has been published on the subject, they constitute the best, because a comprehensive and authoritative presentation of the methods of the Quincy schools. They derive some intrinsic interest and value from the consideration that, like the Sybilline leaves, these talks at the Summer Institute, are growing less and less, and will cease after the Institute of this summer of 1883. The book opens with a brief introductory sketch of Col. Parker's life and work. Then follow in order, one talk preliminary and general, eight talks on Reading, one on Spelling, three on Writing, one on Composition, three on Number and Arithmetic. four on Geography, and one each on History, Examinations, School Government and Moral Training. These talks do not aim nor assume to prescribe fixed modes for teachers to follow in their work. They say: "No one was ever great by imitation; imitative power never leads up to creative power." "I shall object quite as strongly to your taking the methods which I may present, unquestioned, as I should to your acceptance of others in which I do not believe." They present the art of teaching as the greatest art, demanding, "first, honest, earnest investigation of the truth as found in the learning mind and in the subjects taught, and, second, the courageous application of the truth when found." Col. Parker has had abundant success in investigating mind and subjects of instruction, as the talks clearly show; but his greatness in the art of teaching has shown itself in his "courageous application of the truth" in spite of opposition from every source. The Colonel is a warrior-teacher, and his battle-cry is "Freedom!"—freedom of the teacher from dust, rust, ruts, ignorance, servile imitation, and slavish submission to dictation, in the business of his school-room. The book is well printed on good paper, bound in English cloth, and has a life-like cut of Col. Parker.

HISTORY OF ENGLAND, by J. F. Bright. New Edition. 3 vols. on 8 vo. *Rivingtons, London.* A concise and trustworthy text-book, is one of the chief desiderate of the student of English History, we would, therefore, direct the attention of Teachers and Students to a work on this subject, far less known than its merits deserve; namely that of Professor Bright of Oxford. This combines the good points of both systems of historical writing—dividing the study into three great periods, and then grouping together all events having a common result, and by not following the bare chronological order of events, it gives the reader a clearer insight into the period under consideration. Further, unlike so many other historians, it is written without political or sectarian bias, and the aim of the author has obviously been to present a true view of English history, and not merely his own opinions on the subject. We trust this work will soon be one of those appointed as a text-book by the Universities and the Education Department, for the consideration of their respective candidates. While the work will be welcomed by the general reader, it is pre-eminently a work for the student who has to "master" English History—or any period of it—for the examinations. For this purpose, it is, we believe, the best History that has yet been published. Vol. I, Treats of Mediaeval Monarchy; 449—1485. Vol. II. "Personal Monarchy;" 1485—1688. Vol. III. "Constitutional Monarchy;" 1689—1837. The vols. may be bought separately.

THEY WERE ALL POOR BOYS.—An exchange culls the following historical facts, which should encourage every young man struggling under discouragements and poverty:

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Andrew Jackson was born in a log hut in North Carolina, and was raised in the pine woods for which the State is famous.

James K. Polk spent the earlier years of his life helping to dig a living out of a farm in North Carolina. He was afterwards clerk in a country store.

Millard Fillmore was the son of a New York farmer, and his home was a very humble one. He learned the business of a clothier.

James Buchanan was born in a small town among the Alleghany mountains. His father cut the logs and built his own house in what was then a wilderness.

Abraham Lincoln was the son of a very poor Kentucky farmer, and lived in a log cabin until he was 21 years of age.

Andrew Johnson was apprenticed to a tailor at the age of ten years by his widowed mother. He was never able to attend school, and picked up all the education he ever got.

General Grant lived the life of a common boy in a common house on the banks of the Ohio river until he was 17 years of age.

James A. Garfield was born in a log cabin. He worked on a farm from the time he was strong enough to use carpenter-tools, when he learned the trade. He afterwards worked on the canal.—*New England Journal of Education.*

MACAULAY'S LITERARY STYLE.—With being blind to its obvious faults, Mr. Morison points out that to some extent those faults may be accounted for by a not unnatural tendency to transfer the diction of oratory to that of literary composition; and he dwells with sufficient, but not so strong, emphasis on the architectonic character of his narrative. "Any one" he says, "who knows by experience how difficult it is to conduct a wide complex narrative with perspicuity and ease, and then observes the success with which Macaulay has conquered the difficulty will be apt to fall into a mute admiration almost too deep for praise.... Each side of the story is brought forward in its proper time and place, and leaves the stage when it has served its purpose—that of advancing by one step the main action. Each of these subordinate stories, marked by exquisite finish, leads up to a minor crisis or turn in events, when it joins the chief narrative with a certain *éclat* and surprise. The interweaving of these well-nigh endless threads, the clearness with which each is kept visible and distinct, and yet is made to contribute its peculiar effect and color to the whole texture, constitute one of the great feats in literature.

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The Special Committee appointed by the Board for the examination of the various Readers was composed of Chairman of Board, D. Ormiston, Esq., B.A., J. E. Farewell, Esq., LL.B., and G. Young Smith, Esq., LL.B. It should be noted that these have been practical Teachers during the earlier part of their career, thus making their report specially valuable.

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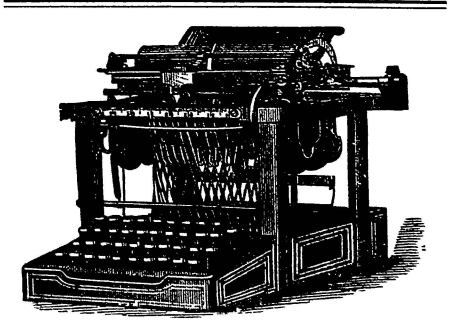

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The Canada School Journal.

VOL. VIII. TORONTO, OCTOBER, 1883. No. 75.

G. W. ROSS, LL.B., M.P.

The election of Mr. Ross to the presidency of the Ontario Teachers' Association seems a fitting opportunity to give a brief sketch of a gentleman whose name has had considerable prominence both in educational and political circles.

The subject of this notice was born in the County of Middlesex, Ont., Sept. 18th, 1841. He attended the rural school near his father's home, where he received, amid the usual associations of such schools in those days, sufficient elementary instruction to obtain a third-class county certificate, and entered on the life of a teacher in 1857, at a salary of *eighteen* dollars a month! In 1859 he obtained a second-class, and in 1866 a first-class certificate from the county board. After ten years of active work in the school-room, during which he was eminently successful in winning the confidence and esteem of his patrons by his thoroughness and enthusiasm, he entered the field of journalism by purchasing in 1867 the *Strathroy Age*. Subsequently he was for some time joint proprietor of the *Huron Expositor*, which has become one of the best local papers in Canada. In 1869, Mr. Ross attended the Normal School, then under the headmastership of Dr. Sangster, and in 1871 received a first-class Provincial certificate. He was local superintendent of two townships, and, under the new school law of 1871, was appointed county inspector for East Lambton. He entered on the duties of this office with his usual energy. His zeal and ability were duly appreciated by the teachers of his district, and in 1875 they presented him with a massive gold watch and chain, accompanied with an address couched in the most complimentary terms. While inspector he established a Teachers' Association and founded a Teachers' Library in his division. On his retirement from the county inspectorship, the County Council presented him with an address expressing their high appreciation of his successful labors. He still acts as inspector of the public schools in the Towns of Petrolea and Strathroy.

During those years when the establishment of additional Normal Schools was agitated in this Province and rival cities were clamoring for location of the proposed new schools within their limits, Mr. Ross took a leading part in the movement set on foot for the creation of County Model Schools, when it was found that the Government of the day hesitated to incur the outlay for additional Normal Schools. He devoted much time and attention to perfecting the new scheme of County Model Schools, and after their establishment, prepared the syllabus of lectures, and was for a time appointed inspector of Model Schools. The excellent results that have followed are a sufficient indication of the wisdom of his counsels, and of the energy and skill with which the scheme was put into practical operation.

From 1876 to 1880 he was a member of the Central Committee, and was there a faithful advocate of the teachers' interests. He contended for the use of only one text-book on the same subject in the public schools, and was in favor of confining the Normal Schools to strictly professional work, leaving the academic or non-professional part of the students' training to the High Schools and Institutes.

From 1873 to 1876 Mr. Ross was connected with the *Ontario Teacher*, which he and Mr. McColl published at Strathroy. It was the first independent educational paper established in this Province, and was afterwards merged in the CANADA SCHOOL JOURNAL. During its publication it was a spirited and well-edited monthly, and enjoyed great popularity among teachers throughout the province.

Mr. Ross' career in the domain of politics is too well-known to need extended notice. In 1872 he was elected representative of West Middlesex in the House of Commons, and has continued to represent this Riding without intermission, being

elected once by acclamation and twice after hard-fought contests. From the first he has been considered a ready debater, a lucid and incisive speaker, and has steadily risen in the ranks of his political party.

Mr. Ross' earnest advocacy of temperance forms a pleasing feature of his life-work. In 1879 he was elected Patriarch of the National Grand Division for North America, and presided over the deliberations of the Sons of Temperance for two years, at Washington and at Cincinnati. In all temperance legislation brought before the House of Commons Mr. Ross has taken a prominent part.

In addition to the severe work already outlined, Mr. Ross has successfully prosecuted the study of law. In 1879 he matriculated at Albert University, entered a law office, and after passing the several examinations of the lower years, he wrote for the degree of LL.B., and passed successfully in the early part of the present year.

As a public speaker Mr. Ross has a remarkable faculty of grouping his facts and presenting his arguments in clear, logical order, in which we find the influence of his early training as a teacher. He is quick at repartee, possesses a retentive memory, and a contagious enthusiasm which frequently expresses itself in genuine eloquence. He has the ardor and impulsiveness of a Celt combined with much prudence and sound judgment. He is a living example of the power of continuity of purpose and indomitable will, when linked with intelligence and high motive. His life is instructive to every young man, and his example is worthy of imitation. It is necessary to add, however, that Mr. Ross' remarkable powers have enabled him to accomplish a multitude of labors which would have broken down a more delicate constitution. It is only just to add also that labors in the school-room equally great would have failed to receive equal honors and present reward.

NORMAL SCHOOLS AND THEIR DEFECTS.

On the 10th of July last the Pennsylvania State Teachers Association met at Williamsport. The attendance numbered four hundred and fifty, and we find all the names reported by counties in the *Pennsylvania School Journal.* In passing we call attention to this idea of making a full report of all members present. Many of the papers and addresses were of great interest. We give a short outline of the discussion on Normal Schools, partly for the purpose of entrenching the position taken by the JOURNAL long ago, and partly for the purpose of giving a glimpse of the views held by leading educators in the neighboring State. The subject was introduced by the reading of a paper by *Dr. A. M. Raub*, of Lock Haven Normal School. He first refers to a severe onslaught on the Normal Schools made in the House of Representatives a few months ago. It appears that the violent attack in the House almost endangered the usual government grant. One of the points urged in opposition to the Normal Schools was the fact that the graduates drift rapidly from teaching to other professions. To this Dr. Raub replies :—

"Now, I take it that if the work of our Normal schools is so well done that the students graduated can stand shoulder to shoulder with college men in the great battle of intellectual and social progress, Pennsylvania has a system of schools of which she may well be proud. I do not deny that the graduates of our Normal schools drift into other professions. Why should they not? Does the great State of Pennsylvania buy all a young man's talent, and culture, and scholarship, and services, for the paltry sum of fifty dollars which she gives him when he graduates? You can't buy even a salable member of a political convention for that sum, much less a man whose moral character is above reproach. I say to every young man and woman, when you receive the fifty dollars upon graduation, and sign a contract to teach for two years in the common schools of the State, fulfil your contract to the letter; give for the time specified the best services of which you are capable; but when the two years' work has been done, you are free, and you owe not one penny to the State, nor would she be so mean as to claim services for which she has not given an equivalent. If you are appreciated and properly remunerated, teach on, for there is no more exalted position on earth than that of the true teacher; but no man is under obligations to put aside positions which will yield him sufficient income for the protection of himself and those dependent upon him in order that he may follow the starveling life of a seedy school-master, and accommodate himself to the penuriousness of a community which neither appreciates his services nor cares for his comfort. Away with this sentimental nonsense that because one has received assistance from the State, to the extent, all told, of less than a hundred dollars, he must therefore give his services to the State for a lifetime!

"But back of all this, is the truth that a large majority of those who graduate from the Normal schools of Pennsylvania teach not only the two years in accordance with their promise, but continue to teach for a much longer time, and many of them to-day hold some of the most important positions in the educational work of the State."

The paper proceeds :—

"The opposition have charged upon us also, first, that the Normal schools of the State do not furnish any considerable number of properly prepared teachers, while from another quarter comes the cry that we have too many of these institutions. Surely if one of the positions is right the other must be wrong; and I am sorry to say that we have calmly sat and listened to these charges without making any attempt to combat them with any effort at success. In one of the troublous periods of France, a witty Frenchman said, 'We are despised because we are on our knees. Suppose we get up.' Has not this been our position, my friends? We have been accustomed to receive censure and reproof too long; it is now time for us to get up and assert ourselves. If any educational institutions in the State have a right to stand on their feet and proclaim the importance of their work, certainly it is those which are attempting to give that professional instruction and training which are the essential qualifications of every good teacher. There is no reason why we should bow, and cringe, and apologize for either our existence or our work. I think I speak the honest truth, at least as I understand it, when I say that there is not an intelligent, honest opponent of professional training to-day, not an opponent who is not either ignorant of the work which Normal schools are designed to accomplish, or who has not a grievance which he dare not tell to the public."

Further on we find :—

"We have been severely censured for mismanagement because the indebtedness against our Normal schools is in the aggregate nearly a quarter of a million. This is not as formidable a matter as it at first sight appears. It must be remembered that the Normal school property of this State is worth a full million and a half, about one-half of which has been contributed

directly by the State, and in the second place that a large proportion of the present indebtedness has been created by the demand of the State that the buildings, supply of apparatus, and general professional outfit, must come up to a fixed standard. The school having but one hundred students is compelled to have as complete an outfit as the one with three times as many, even in the matter of faculty. Again, the competition with ten schools in the field has been considerably closer than with but three or four; as a consequence no young school has been able to make itself self-sustaining in the first few years of its existence.

"What we think the State of Pennsylvania ought to do, is to follow the lead of some of the more progressive sister States on this Normal school question in giving to every student preparing for the profession of teaching in good faith, free instruction. The amount needed to pay the current expenses incident to the matter of instruction would be but little greater than that now required for the usual appropriations. But even were it considerably more, why should not a great State like ours, with a free school system second to no other in the Union, be willing to strengthen this right arm of her public school system with the requisite appropriations if she can thereby add to the efficiency of her schools and promote the cause of education?"

The essayist then turns to the professional work done in the Normal schools :—

"No one claims that they should be wholly academic in character, for that would place them on the same educational plane as high schools and academies. The only question that can arise is this: Shall they be what is called strictly professional in character, or shall they mingle academic and professional instruction? The opponents of Normal schools have always held that these schools should be strictly professional, but back of this argument lies a grievance, and we shall have to exclude this class of persons from the discussions, being incompetent to decide on the question. Of the friends of the system not a few have claimed that the academical work of the school should be relegated to the high school and the academy. But even with these one important fact is either overlooked or forgotten; it is this, that teaching pupils in the ordinary high school or academy with the view of either imparting knowledge or securing discipline is a vastly different thing from teaching the same facts and principles to those who, as teachers, expect to impart this knowledge and training to others, and this truth must govern the teaching throughout all the departments of a Normal school. The academic work is thus modified, and becomes in itself both academic and professional.

"The Normal school professors and teachers that fail to appreciate this important fact are, to put it mildly, not prepared for their work. Possibly there are such teachers in every school; that, then, is a local defect. I am prepared to say that I doubt the efficiency of any Normal school that advertises to do professional work only; and I am willing to go further, and say that no Normal school ought to send out young men and women as graduates who have not been taken carefully over the ground which they are expected to cover in their ordinary school work, either as teachers or as superintendents. A knowledge of the branches which they expect to teach these young men and women must have. How shall that knowledge be acquired? The opponents of Normal academic instruction reply, 'In the high school.' Now, I have a great deal of faith in high schools, but I give it as our experience that graduates of even high schools, and we have had many of them, require at least a year of instruction to complete the Normal school course, and this is the academic work as well as the professional.

"If I were to make a criticism on this class of pupils, I should say that almost without exception we find them inclined to memorize rather than think and reason for themselves, and we are compelled to reorganize entirely their mode of study. No class of students that ever come to our Normal schools understand even the ordinary common branches as teachers ought to understand them. We find many, of course, who are thoroughly versed in special text-books; but, as a rule, when they come to apply principles they are wofully deficient. There is not that breadth of culture, that ability to look on all sides of a question, which is a requisite in one who expects to teach. The scholastic instruction therefore which most students receive in schools not designed to prepare them for teaching does not answer, and academic instruction, modified as I have indicated, becomes a necessary part of Normal school work.

"It is an undisputed fact in the Normal school history of our State, as also in that of other States, that those who have received their preliminary training in the common school branches before entering the Normal school have always done their poorest work in the branches which they neglected to take in the Normal school itself; and this is simply a confirmation of the truth, that in general a teacher will teach as he was taught.

"Example is more powerful than precept, and in this the Normal school graduate is no exception to the general rule. Give him an example of your work, and he will impart his knowledge much as he acquires it; but give him the theory only, and you place a two-edged sword in his hand without imparting to him the practical skill to use it effectively.

"I am tempted to make just one other suggestion—every teaching student ought, before attempting to practise in the Model school, to spend several months in observing the work of first-class instructors. It will be well also to have him observe and criticise the work of those who are soon to be sent forth as graduates. It will do both parties good."

From the following our readers will draw their own conclusions :—

"The argument that the Normal schools of the State do not furnish any considerable number of teachers has some force, but the reason for this seeming defect lies not against the system so much as against the unwise financial policy of school boards, who often look not to professional qualifications and aptness to teach as the requisites in a teacher, but rather to the amount of his muscular development, directoral kinsh p, and a general cheapness of shoddy material sufficient in quantity to fill the chair on the platform. So long as school directors are selected because they have sons and daughters or nephews and nieces to be provided for in the school-room as teachers, so long the Normal schools will not be able to induce young men and women to prepare themselves for the professional part of the work of teaching. It will be a glorious day indeed when the Legislature shall enact such laws as will forbid this nepotism."

From the discussion on the paper we find that graduates of the Normal schools are liable to be re-examined by district superintendents. This practice was condemned. One speaker said :—

"I am grieved to find that one of the wealthiest commonwealths in the world should ask fees from those who are to render services that can never be fully remunerated. I cannot conceive of a successful system of education in which the Normal school is not paramount."

Dr. Wickersham, ex-State superintendent, remarked :—

"The Normal school is as deeply rooted in Pennsylvania as in any State of the Union; and unless great changes have taken place since I talked with the great educators of the west, they as well as we are still engaged in discussing questions of detail, for that is all that is at issue here, as the principle has long been settled. The fact that men in the Legislature

and out of it, who like to hear themselves talk, make the Normal school their occasion, and the frequent and sharp criticism sometimes heard on this floor, are not evidence of weakness, but of strength. The Normal schools are not perfect, and agitation of these questions of detail will and ought to continue; but the rock of their foundation is not shaken."

Dr. Highbee, State superintendent, said :—

"Perhaps the severest criticism of the Normal schools has come from myself—not because I am opposed to Normal instruction, for I have seen and felt the need of it for years; but as Dr. Wickersham has said, it is not the principle that is under discussion, but the details, and some of these questions of detail are highly important. There is such a thing as academic instruction—there is such a thing as Normal instruction—there is such a thing as combining them; but our Normal schools *do not make the combination:* that is my criticism. The study of psychology is important—the study of psychology as applied to teaching is needed in our Normal schools—but we teach it as we would in a university. What we want is the teaching of psychology as applied to the teacher's craft—and we will not rest satisfied until we get it. But the difficulty, of course, is that our material does not come to us in condition for Normal instruction—our pupils are poorly or improperly prepared, and must be stuffed and crammed year after year until they graduate as teachers. We cannot have Normal schools worthy of the name until the colleges, and high schools, shall send us pupils grounded in scholarship, and ready for the professional instruction that bears on teaching. God grant that our ten Normal schools may some day become such!—but we all know they are not such now. We must have teachers. Parents cannot do the work. The clergy cannot, and indeed the church is so divided in its confessions as to be unable to furnish any common confessional ground. Teachers the State must have. Where shall we find them? Shall we pick them up at random, and put them to a work so significant, and so far-reaching for good or for evil? While we pay large sums for the highest skill in analyzing oils and testing the quality of iron, shall we forget the greater necessity of skilfully-trained inspectors and promoters of the growth of mind and soul? We must have schools to give us trained teachers and superintendents, fully acquainted with the best methods of instruction, and with clear grasp of the philosophy of their work. Such schools are not for children, however, but for those whose attainments are already such as to enter upon this professional study with some consciousness of its particular import and responsibility. Such schools, therefore, should have for their professors the very best talent at hand. Colossal men are needed—men like Pestalozzi, Froebel, Rosenkrantz, Wickersham, and others—men not only of the very highest and broadest scholarship, but men of great professional experience. With infinite pleasure shall we hail the day, when with such professional schools for teachers, we may receive the graduates of our colleges and higher schools of learning, as do the schools of medicine and law. The time may come, yea, ought to come, when our most learned and experienced men will see the necessity of furnishing our common schools with such professional teachers as can be safely allowed to guide and inspire and control the civilization of the age."

REPORTS OF CASES.

In the intermediate and higher grades of the schools, a teacher writing, gives her experience as follows :—

"I have not yet been able to give a definite time for the independent study of temperance; but I introduce it in *every* class. In my physiology class, as the pupils study the different organs of the body, one of my standing questions is: 'What would be the effect of alcohol or narcotics on that organ?' And the pupils, soon learning that this is a standing question, always read up on the subject, and come prepared with the answer. And I can testify that at the close of the term my examinations show that the diseased stomach, the paralysed nerves, the hardened brain, the hob-nailed liver of the drinker, is as much a physiological fact in the mind of my pupils as the circulation of the blood, or the office of the gastric juice.

"In my class in literature, I ask, in connection with each author's history: 'Did he use stimulants as a beverage?' and link their knowledge of physiology and alcohol with the history of the man. In geography, as we study the map of those wine-growing countries, Italy, France, and Portugal, and of Germany, the land of beer, I ask the pupils to read up and find whether these nations are temperate nations or not. We having procured for the use of our school a small 'temperance library' for reference.

"Even in my arithmetic classes, I am able, incidentally, to give a temperance lesson. Many of my original questions are made up of figures taken from 'Our Wasted Resources,' by Hargraves, and from other books, showing the loss and cost to the nation and citizen occasioned by the use of alcoholic drinks. For example, to my class in addition, I one morning gave the question: 'If the rent bill of Ireland, now so poverty stricken as to be on the point of revolution, is annually $57,000,000, and her drink bill for the year 1880 was $69,000,000, what is the sum total of these two bills?' And to my class in subtraction: 'If Ireland's drink bill is $69,000,000, and her rent bill is $57,000,000, what is the excess of the drink bill over the rent bill?'"

The following story was originally published in the *Massachusetts Teacher* for 1834. The lesson is still fresh, and so is the genial writer :—

"In one of the most populous cities of New England, some years since, a party of lads, all members of the same school, got up a grand sleigh ride. There were about twenty-five or thirty boys engaged in the frolic. The sleigh was a very large and splendid *establishment*, drawn by six grey horses. The afternoon was as beautiful as anybody could desire, and the merry group enjoyed themselves in the highest degree. It was a common custom of the school to which they belonged, and on previous occasions their teacher had accompanied them. Some engagement upon important business, however, occupying him, he was not at this time with them. It is quite likely, had it been otherwise, that the restraining influence of his presence would have prevented the scene which is the main feature of the present story.

"On the day following the ride, as he entered the school-room, he found his pupils grouped about the stove, and in high merriment, as they chatted about the fun and frolic of their excursion. He stopped awhile and listened; and, in answer to some inquiries which he made about the matter, one of the lads—a fine, frank, and manly boy, whose heart was in the right place, though his love of sport sometimes led him astray—volunteered to give a narrative of their trip and its various incidents. As he drew near the end of his story, he exclaimed: 'Oh, sir, there was one little circumstance which I had almost forgotten to tell you. Toward the latter part of the afternoon, as we were coming home, we saw, at some distance ahead of us, a queer-looking affair in the road. We could not exactly make out what it was. It seemed to be a sort of half-and-half monstrosity. As we approached it, it proved to be a rusty old sleigh, fastened behind a covered wagon, proceeding at a very slow rate, and taking up the whole road. Finding that the owner was not disposed to turn out, we determined on a volley of snowballs and a good hurrah. These were given with relish, and they produced the right effect, and a little more; for the

crazy machine turned out into the deep snow by the side of the road, and the skinny old pony started on a full trot. As we passed, some one who had the whip gave the old jilt of a horse a good crack, which made him run faster than he did before, I'll warrant. And so, with another volley of snowballs, pitched into the front of the wagon, and three times three cheers, we rushed by. With that, an *old fellow* in the wagon, who was buried up under an old hat and beneath a rusty cloak, and who dropped the reins, bawled out: 'Why do you frighten my horse?' 'Why don't you turn out, then?' says the driver. So we gave him three rousing cheers more; his horse was frightened again, and ran up against a loaded team, and, I believe, almost capsized the old creature; and so we left him."

"Well, boys," replied the instructor, "that is quite an incident. But take your seats; and, after our morning service is ended, I will take my turn and tell you a story, and all about a sleigh ride too."

Having finished the reading of a chapter in the Bible, and after all had joined in the Lord's Prayer, he commenced, as follows:—

"Yesterday afternoon, a very venerable and respectable old man, and a clergyman by profession, was on his way from Boston to Salem, to pass the residue of the winter at the house of his son. That he might be prepared for journeying, as he proposed to do in the spring, he took with him his light wagon, and for the winter his sleigh, which he fastened behind the wagon. He was, just as I have told you, very old and infirm; his temples were covered with thin locks, which the frosts of eighty years had whitened; his sight and hearing, too, were somewhat blunted by age, as yours will be, should you live to be as old. He was proceeding very slowly and quietly; for his horse was old and feeble, like his owner. His thoughts reverted to the scenes of his youth, when he had perilled his life in fighting for the liberties of his country; to the scenes of his manhood, when he had preached the gospel of his divine Master to the heathen of the remote wilderness; and to the scenes of riper years, when the hard hand of penury had lain heavily upon him. While thus occupied, almost forgetting himself in the multitude of his thoughts, he was suddenly disturbed, and even terrified, by loud hurrahs from behind, and by a furious pelting and clattering of balls of snow and ice upon the top of his wagon. In his trepidation, he dropped his reins; and, as his aged and feeble hands were quite benumbed with cold, he found it impossible to gather them up, and his horse began to run away.

"In the midst of the old man's trouble there rushed by him, with loud shouts, a large party of boys in a sleigh drawn by six horses. 'Turn out, turn out, old fellow!' 'Give us the road, old boy!' 'What'll you take for the pony, old daddy?' 'Go it, frozen nose!' 'What's the price of oats?' were the various cries that met his ears.

"'Pray, do not frighten my horse,' exclaimed the infirm driver.

"'Turn out, then! turn out!' was the answer, which was followed by repeated cracks and blows from the long whip of the 'grand sleigh,' with showers of snowballs, and three tremendous huzzahs from the boys who were in it.

"The terror of the old man and his horse was increased; and the latter ran away with him, to the imminent danger of his life. He contrived, however, after some exertion, to secure his reins, which had been out of his hands during the whole of the affray, and to stop his horse just in season to prevent his being dashed against a loaded team.

"As he approached Salem, he overtook a young man who was walking toward the same place, and whom he invited to ride. The young man alluded to the 'grand sleigh' which had just passed, which induced the old gentleman to inquire if he knew who the boys were. He replied that he did; that they all belonged to one school, and were a set of wild fellows.

"'Aha!' exclaimed the former, with a hearty laugh (for his constant good nature had not been disturbed); 'do they, indeed? Why, their master is very well known to me. I am now going to his house, and I rather think I shall give him the benefit of this whole story.'

"A short distance brought him to his journey's end, the house of his son. His old horse was comfortably housed and fed, and he himself abundantly provided for. That son, boys, is your instructor; and that aged and infirm old man, that 'old fellow' and 'old boy' (who did not turn out for you, but would gladly have given you the whole road, had he heard your approach), that 'old boy,' and 'old daddy,' and 'frozen nose,' was Rev. Daniel Oliver, your master's father, now at my house, where he and I will gladly welcome any and all of you."

It is not easy to describe nor to imagine the effect produced by this new translation of the boy's own narrative. Some buried their heads behind their desks, some cried, some looked askant at each other, and many hastened down to the desk of the teacher with apologies, regrets, and acknowledgments without end. All were freely pardoned, but were cautioned that they should be more civil for the future to inoffensive travellers, and more respectful to the aged and infirm....."

Years have passed by; the lads are men, though some have found an early grave; the "manly boy" is "in the deep bosom of the ocean buried." They who survive, should this story meet their eye, will easily recall its scenes, and throw their memories back to the school-house in "Federal street," Salem, and to their old friend and teacher, Henry K. Oliver.

Here is a concrete case. A lady in a city school had fifty-two pupils, and was of course ambitious to promote them; so she spent three months on the work of the grade, and the rest of the term on questions for examination. At the end of the year all but two or three passed a public examination in fine style, and the teacher was highly praised. Of course, a graded system is an advantage, but the sooner we open our eyes to the common abuses and defects the better.

Now that the great Methodist union has taken place, we shall probably see a consolidation of the denominational colleges. The problem of university consolidation has entered on another phase, and its further development will be watched with increasing interest. Union is strength in education as well as in religion.

In reference to our notices of the Minister's report in the June number, Inspector White thinks the statement that "about 56,500 of the 85,000 R. C. children in this province attend the public schools" may be misunderstood if left unqualified. He adds that about 30,000 of these 56,500 attend public schools where R. C. children form the greater part, often the whole number, of pupils.

In the editorial columns of this number we have endeavored to give our readers some glimpses of educational opinion outside our "proper patch of soil." They will not dislike an occasional excursion into the regions beyond where noble work is doing by fellow-laborers and worthy brethren.

The Upper Canada college question is again cropping up in various quarters. Public opinion, as far as can be judged, all tends in the same direction. The demand for its abolition was never more clearly voiced than at the present time.

Get your friends to subscribe for the "Canada School Journal."

Mathematical Department.

We find it necessary to devote all our space this month to dispose of the correspondence that has accumulated on our hands. It is a great encouragement to have such an army of friends, and we regret that our limits compel us to condense, curtail, or pass over much of what they send us. Nevertheless, we hope they will continue to write, and thus keep us fully acquainted with their particular wants. We aim at making this Department above all things *useful* to our subscribers, and our warmest sympathies go out to those who have not the advantage of teachers and professors to assist them. To our correspondents, one and all, we return hearty thanks and bid them cordial greeting.

In order that our shortcomings may not be placed on his shoulders, we beg to state that Mr. Baker's connection with this Department ceased with the February number of 1881. All correspondence should be addressed to THE MATHEMATICAL DEPARTMENT, and should be written only on one side of the paper, and should be kept separate from other communications.

L. J. CORNWALL, Beamsville, sends solution of No. 7, part 2, page 126, as already published, page 152. He wishes for the success of the JOURNAL, and would be thankful to receive a solution of the following :—Given base, vertical angle, and length of bisector of vertical angle, to construct the triangle. He will find the solution in Thompson's Euclid, Appendix Bk. III., Prop. X.

A. HAY, Barrie, also sent solution of No. 7, part 2, p. 126.

JANE SHUE, Sandwich East, sends a neat solution of No. 1, p. 150.

JOHN MOSER, South Tay, N.B., sends solutions to four problems on page 150.

MRS. G. C. WARBURTON, Toronto, sent full solutions to problems on page 78. Her results are : 36 men ; 100:42 ; $x=\pm\frac{2}{7}$ or $\pm\frac{7}{12}$; $x=\sqrt{(-\frac{a^2}{3}}$; $x=\frac{5}{3}$, $y=\frac{5}{3}$, $z=\frac{5}{3}$.

JOHN ANDERSON, Dixie, Ont., finds 1154·348 gals., U. S. wine measure, to be the amount of oil in cylinder mentioned on p. 152. We regret that the geometrical figure and the length of the solution preclude publication in this issue. Mr. Anderson makes 180 days and not 100 days the answer to No. 3, p. 150. We think Mr. Moser is correct with 100 days. Mr. A. also gets a smaller result than that we gave for No. 2, p. 150. Perhaps the discrepancy arises from the use of five-figure logarithms instead of higher tables with eleven. Will our friends investigate? Mr. A.'s result is :—

$39841243491743119266055045872293577981651376 14·67.

We took our answer from a mathematical journal.

ALEX. KERR, Wiarton, asks the price of a mortgage of $650 due in 5 years, 3 months of which have expired, interest @ 7 per cent., payable yearly, so that the purchaser may make 9 per cent. on his investment. We assume that compound interest is meant, as is usual in such cases.

D. R. BOYLE, West Arichat, C.B., sent a solution of oil question on page 152 :

Area of end of cylinder	=19·63495
" part unfilled	= 6·42428
Area of part filled	=13·21067

Giving 823·3 gals. of 277·274 cubic inches each, which is the same as Mr. Anderson's result.

We have to stop here to leave room for a veteran mathematician, whose appearance in our columns will be hailed with delight. The following explains itself :—

CAMBRIDGE, August 16th, 1883.

Mathematical Editor, CANADA SCHOOL JOURNAL:—

DEAR SIR,—I have just laid my hand on a paper on "Converse Propositions," written by the late T. S. Davies, Esq., who held the second Mathematical chair at the Royal Military Academy at Woolwich. I always regarded him as the most eminent geometer of his time. It has occurred to me you might be able to make some use of this paper in your SCHOOL JOURNAL, which I observe takes notice of matters connected with elementary mathematics.

Yours most truly,

R. POTTS.

CONVERSE PROPOSITIONS.

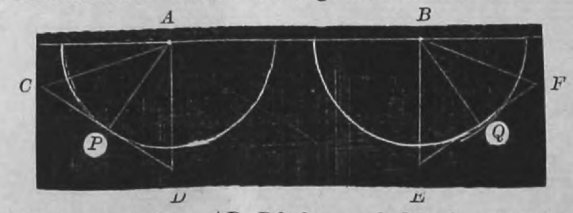
There are many careless writers who deem it sufficient to prove one proposition and to assume *thence* the truth of its converse. Thus, if it had been proved that the angles at the base of an isosceles triangle are equal, they would assume without further proof, that if the angles at the base of a triangle be equal, the sides opposite to them were also equal. In the same way, but with more plausibility, they consider that i. 19 is the converse of i. 18 and needs no proof whatever. In a certain sense i. 17 is the converse of i. *ax.* 12; and hence one or the other of these would by such writers be assumed as true, according to which was first admitted ; and as i. 17 is admitted to be rigidly proved, they ought, for the sake of consistency, to make *ax.* 12 a corollary of i. 17 instead of keeping it in its present place.

Although Euclid does not always discuss the converse propositions, he certainly never assumes them as corollaries in the manner described. He does not enunciate them at all, except they be such as he requires in the ulterior part of his writings ; and then he always gives them the form of distinct propositions with the requisite constructions and demonstrations, as the cases may demand. In modern research we require a much greater number of theorems and elementary problems than he did ; and amongst these wants are the converses of some of his direct propositions, and indeed of much more complex ones.

With respect to problems, however, the converse is often of a totally different nature from the direct one ; indeed, so much so that we can sometimes gain but little assistance from the one construction in devising the other. In theorems, on the other hand, the method *ex absurdo* will in general effect the purpose, if no direct method of proof should present itself to the mind. Still, wherever the direct proof can be obtained it is to be preferred ; and the indirect only employed in cases where the other fails to suggest itself to the mind. In the propositions quoted (i. 5 & 6, i .18 & 19) and several others in the first and third books, the *ex absurdo* method is employed ; but in i. 48 it is evaded by drawing the triangle *ADC* on the other side of *AC* from the triangle *ABC*. In the sixth book there are several instances of a theorem and its converse being joined in the same enunciation, and both proved in the direct manner ; as for instance in 2, 3, *A*, 14, 15, 16, 17, 22, and 25, whilst 24 has its converse 26 proved *ex absurdo*.

When the number of conditions is small, the number of converses is also small. For instance, in i. 5 and i. 6 there is one condition only annexed to the triangle and there is but one converse of i. 5. It is the same in i. 18, 19 as long as we confine our comparison to *one pair* of angles in each triangle. It is however not the same again in comparing i. 39, 40 with i. 37, 38 respectively; for there are three conditions involved in the entire theorems—the equality of the bases, the equidistance of the parallels, and the equality of the triangle or parallelograms. Two cases are selected by Euclid in which two of these conditions necessarily lead to the third, as in 37 and 39 or in 38 and 40. But these are not all the converses ; as it is obvious that with the same elements we may form these three others. Let us consider 37 and 39 as two of the connected propositions ; the others are—(*a*) If two triangles have equal areas and be between the same parallels, they will be upon equal bases ; (*b*) If two equal triangles have equal altitudes, their bases will be equal ; (*c*) If two equal triangles have equal altitudes and lie on the same side of the line which joins their vertices, their bases will be in the same straight line parallel to that through the vertices.

Now of these three, the first (*a*) may be proved *ex absurdo* by means of 37 ; and the second (*b*) may be reduced to (*a*) by means of a subsidiary triangle; but the third (*c*) is not *necessarily true*—that is that it may be true or it may not. Innumerable triangles may fulfil the conditions without fulfilling the theorem. Thus—



Let *AB* be the vertices, *AP*, *BQ* the equal altitudes of the triangles *ACD* and *BEF* ; describe semicircles about *A*, *B* with these equal altitudes as radii ; draw tangents *CD*, *EF* at *P*, *Q*, and make them equal to one another (but not necessarily having *CP*=*QF* and hence *PD*=*QE*, nor even so that *C*, *D* shall be on different sides of *P*,

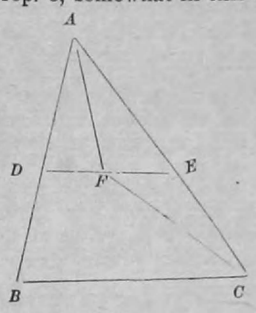
though E, F be so with respect to Q); and complete the triangles CAD. EBF. Then by (b) these are equal, since AP and BQ being perpendicular to CD, EF they are the altitudes. But the bases CD, EF are not in one line, except AP and BQ be parallel, which again can only be the case (retaining the common magnitude of the equal altitudes), when AP, BQ are perpendicular to the line AB.

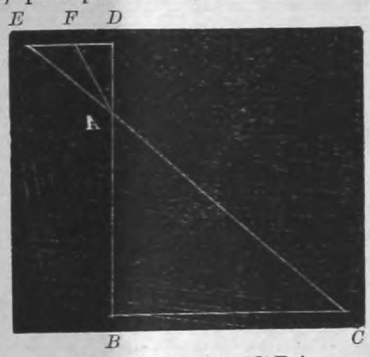
This shows that the inference of the truth of the converse from a principal theorem is in one case unsound; and it follows, that if a single exception to such a rule of inference can be produced, there may be more (it would be easy to produce any number demanded) than one; and hence again that any specific inference of the kind which we may wish to draw may be of these erroneous ones. In all cases, therefore, where such a proposition is required, it must be itself actually proved prior to its adoption.

It may be remarked too, though somewhat casually, that when the converse theorem admits of direct demonstration, the process itself really becomes identical with the analysis of the primary theorem. The relation, however, between direct and indirect demonstrations in connection with analysis will be better seen when we come to that subject. We only give one or two examples here.

1. Take vi. 2 as a primary theorem, and one of its converses is given and proved. But there also arises this:

Let ABD be one line, and DE parallel to BC; but instead of taking AEC as one line, let $BA:BC::DA:DE$; then A, E, C, will be one line. It is true, indeed, that Euclid would not have proved it at this stage; but it is certain that if he had wanted it for any ulterior purpose, he would have enunciated and proved it after prop. 6, somewhat in this way perhaps:—





For if AC does not contain the point E let it cut DE in some other point F. Then line DE is parallel to BC the angle ADE is equal to ABC; and since the sides about the equal angles are proportional, the triangles BAC, DAE are equangular; and the angle DAE is equal to BAC:—the less to the greater (or the greater to the less), which is absurd. The line AC cannot therefore but pass through E; or A, E, C are in one line.

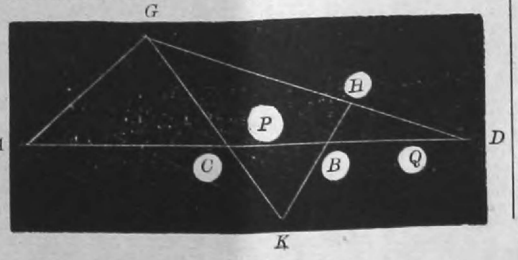
Or thus, perhaps:—

For if not, draw as before. Then since AFC is a straight line, we have— $AD:DF::AB:BC$ and $AD:DE::AB:BC$,
wherefore $AD:DF::AD:DE$, or (v. 7) $DF=DE$, the greater to the less, &c.

2. Another theorem of great importance in geometrical demonstration, takes one part of the hypothesis (viz., three lines drawn through the same point) in exchange for some conclusion respecting lines so drawn. Now that three lines which are specified in the enunciation in dependence upon other conditions should be proved to meet in one point, is incapable of direct proof proceeding wholly from first principles. It has been supposed that this difficulty is overcome by the process of showing that two of them divide the third in the same ratio, but the difficulty is only transformed into another.

A given straight line can be divided in a given ratio, *the segments being estimated in the same manner* (a limitation always necessary) in more points than one.

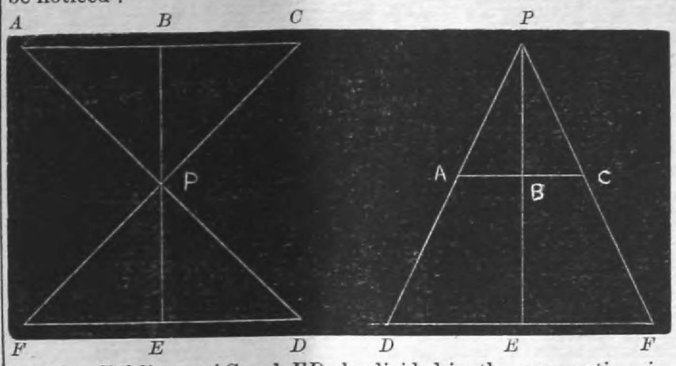
Let AB be the given line, and $AG:BK$ the given ratio. Place AG, BK parallel to one another and on opposite sides of AB; draw GK cutting AB in D. Then



$AC:CB::AG:BK$ in the given ratio. There can hence be one point of section.

There can be no other; for if possible let also $AP:PB::AG:BK$. Wherefore also $AP:PB::AC:CB$; and hence $AP+PB:AP::AC+CB:CB$, or $AP+PB:AC+BC::AP:CB$. But the first term is equal to the second, each being equal to AB; and hence the third to the fourth, or AP the greater equal to AC the less. Wherefore it cannot be divided, the homologous parts taken in the same manner in more points than one.

3. There is one case more of very frequent occurrence that must be noticed:—



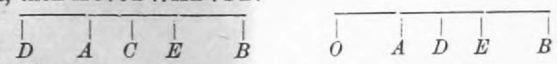
If parallel lines, AC and FD, be divided in the same ratio, viz., $AB:BC::DE:EF$, the lines AD, BE, CF will pass through one point P. The same is true however many segments there be in these parallels. It is left for the student to prove.

In the same way, it may be shown that subject to the homologous limitation, the line can be divided *externally* in one point D in the given ratio $AG:BH$. Let the student prove it by assuming Q as another point.

As the character of these propositions will now be apparent, it will only be necessary to add one example of the direct proof of a converse proposition. It is the first of that remarkable series given in 1763 by Dr. Matthew Stewart under the modest title of *Propositiones Geometricæ, more veterum demonstratæ;* and is likewise made the first of those appropriated from that work (without acknowledgment) by Lawson in his *Dissertation on the Geometrical Analysis of the Antients*, 1774. The demonstration here employed was given in—in Legborn's *Mathematical Repository*, vol. I. —, by Mr. Colin Campbell, and reprinted amongst other works of that eminent geometer at Liverpool, 1848, under the title of *Mathematical Lucubrations.* Dr. Stewart's is altogether different, and it was no part of Lawson's plan to give solutions.

Directly.—"If a right line AB be bisected in E, and two points C and D be taken in it, such that $AC:CB::AD:DB$, the rectangle DCE will be equal to the rectangle ACB."

Conversely.—"If a right line AB be bisected in E and two points C and D be taken in it, such that the rectangles DCE, ACB be equal, then $AC:CB::AD:DB$."



Directly—

Since	$AC:CB::AD:DB$,
inv.	$CB:CA::DB:AD$,
div. or comp.	$2CE:AC::AB:AD$,
hence	$CE:CA::BE:AD$,
perm.	$CE:BE::AC:AD$,
inv.	$BE:CE::AD:AC$,
comp.	$CB:CE::DC:AC$,
wherefore rect.	DCE=rect. ACB.

Conversely—(Same figure.)

Because rect.	DCE=rect. ACB,
it will be	$DC:AC::CB:CE$,
div.	$AD:AC::EB:EC$,
perm.	$AD:EB::AC:CE$,
or	$AD:AB::AC:2CE$,
comp. or div.	$AD:BD::AC:CB$,
that is	$AC:CB::AD:DB$.

Instead of giving a series of theorems of this class, it is left to the tutor to select such as in his judgment are best adapted to his pupils. One thing, however, every tutor should insist upon—that whenever his pupil employs or quotes the converse of any specific theorem, he should require a proof to be given, direct or indirect as the case may admit.

Special Articles.

THE KINDERGARTEN.*

A Kindergarten is a training school for children, usually between the ages of three and seven years; the children do not stop at this age because they have gone through, or could go through, the system in that time, but because, at the age of seven, they are supposed to have matured sufficiently, physically and mentally, to begin to learn from books—so to the age of seven Kindergarten children are not taught to read or write. After the children attain the age of seven they spend a short time each day in learning to read and write, not in the Kindergarten however, for we have no books in the Kindergarten, except those the children make themselves.

They are sent out to another department, at first for half an hour each day, then the time is increased to an hour, an hour and a half, two hours, until they are out of the Kindergarten entirely, which should be about the age of ten.

But the benefits of the Kindergarten training do not stop here, but will follow them through life. Their minds have been trained to think logically, their physical nature so trained that the body is in perfect health and symmetry, and the moral nature trained in such a way that the child can lay hold on knowledge with an unprejudiced mind and will be able to distinguish to a great extent between right and wrong.

The Kindergarten recognizes the fact that a child is composed of three essential elements—body, soul, and mind; that each of these require special training, not separately, but all three together. In the true Kindergarten everything is arranged for the proper cultivation of this three-sided nature.

Before proceeding further I desire to set your minds at rest on this subject of reading, for I find that most persons are so anxious to know how, when, and where, reading and writing are taught in the Kindergarten, and when they find out the system does not include these two things they take no interest whatever in it, concluding in their haste that it is a useless waste of time, energy, and money.

The almost universal opinion seems to be that to learn to read and write are all that children require to learn in this world, that the earlier they are acquired the better, and that having accomplished these two things at least half the battle of life is won.

Says a prominent educator and great advocate of this system:—"Reading is the rock on which most schools and methods founder. Learning to read, to get the names of things which they have never seen, does more to develop stupidity in children than any other single cause."

In the Kindergarten they are taught the alphabet of things before they learn the alphabet of literature.

The name Kindergarten is from two German words—*Kinder*, child—*Garten*, garden,—a place where children are trained in a natural way, as we train plants in a garden.

That the child's soul, body, and mind are like the virgin soil, and to bring forth good, pleasant, and beautiful flowers and fruit only require the proper culture, which should not be forced like hothouse plants, but their moral, physical, and mental nature cultivated in a natural way.

"If we look at a well-kept garden we shall see how thoroughly every plant is supplied with the proper temperature, light, soil, and moisture, while everything, even to the smallest pebble, that may prevent growth and development is removed." Here we see how all the necessary conditions for the growth and development of the plants are considered and carried out.

"From the garden we too may learn a lesson worthy of imitation in our dealings with children, as we think of how much greater value is the nurture of a human being than the growth of a plant."

To carry on a Kindergarten successfully three things are necessary. First and most important is a well-qualified and thoroughly trained Kindergartener or teacher, a well-lighted, thoroughly ventilated, sunny room properly furnished, and all the material and appliance for the children to work with.

The furniture consists of low chairs, so that the children can rest their feet on the floor and thus sit in a natural position; the chairs are far enough apart so that the children will not crowd one another.

There are no desks but tables, the tops of which are marked in squares of one inch, forming a net-work over the whole surface, for the purpose of measuring the work, keeping it straight, and teaching the children to work on the square; the tables are of the proper height so that the children can sit and work with ease and comfort without straining the body.

The work of the Kindergarten is of two kinds, called Gifts and Occupations. The Gifts are mostly of wood, and the work with them can be taken apart and put together again; this material is left in the Kindergarten and given to the children from day to day, and neatly placed in the boxes by the children when they have done with it. The Occupations of the Kindergarten are of various kinds of material, but are mostly made of different kinds of colored paper; these forms are permanent, and all that the children make are their own to dispose of as they please.

Besides the Gifts and Occupations, a part of each day is devoted to calisthenic exercises of a very simple kind suited to the age of the children, the Kindergarten games, singing, story-telling, a short oral lesson in French or German, and drawing.

The time devoted to the Kindergarten is three hours in the morning, the time in which children are most active; they are not kept very long at one thing, as a frequent change of position and occupation is considered best for their physical and mental growth.

Froebel's idea was that instruction should be given in the most agreeable way possible, that learning should never be a task but a pleasure to the youngest child, that as soon as the physical and intellectual nature of the child are put forth he wants to learn and takes pleasure in learning. That the senses first awakened are sight and touch, and through these channels should the education begin, by learning color, form, and number—qualities that belong to all things in the universe—that children should learn the alphabet of things before they learn the alphabet of literature; the A B C of things consisting in their common properties of form, color, size, number, weight, sound, etc. So he studied children and their occupations, taking special care to note what they preferred to occupy themselves with, and wrought these things into an education, beginning with the primary form, the sphere or ball, which he called the First Gift. It consists of six soft balls made of wool. Three are of the primary colors, red, blue, and yellow. Three are of the secondary class, green, purple, and orange. By these he receives his first lessons in color, form, size, weight, and density. Being soft, without corners or edges, it is well adapted to be handled by the little hands in playing the games with one ball at first, and the others are added one at a time as he is able to manipulate them.

The games are accompanied by a song in which all are expected to join; the ball is passed from one child to another, each making a nest of his hands to receive it, or it is held by the string and moved up and down, right and left, front and back, round and round—each movement has a song of its own; the ball is compared

* Read before the Lennox and Addington Teachers' Association, by Miss Emma Robertson, Kindergartener.

with other things of similar shape, color, and texture, both in the room and out of it.

So well adapted is this method of instruction to the child-nature that in teaching a little deaf and dumb girl color, I held the red ball beside a chair painted the same color. To show me that she understood my meaning she took the ball from my hand and held it beside another child's red stockings. Her face brightened with intelligence when she found we could understand each other.

The Second Gift consists of a ball, a cylinder, and a cube, made of wood. The wooden ball is compared with the wool ball and all their qualities of similarity and difference are brought out, then the cylinder and ball are compared, and the cube cylinder and ball are compared with a like result. The sphere is the embodiment of motion, the cube of rest, while the cylinder is their intermediate, possessing both qualities. Whether in rest or in motion the form of the ball remains unchanged, while the cube and cylinder change their form on the slightest motion or change of position. The rotatory motion of the cylinder reveals the fact that the sphere is contained in the cylinder, and the same motion of the cube shows that the cylinder is contained in the cube. The cube being the entire opposite of the sphere, and their connecting link the cylinder, their differences in form are brought perceptibly before the minds of the children, and they are thus early initiated into the philosophical principle of the difference of things, or things in relation to their opposites. On this philosophical principle is the Kindergarten system founded.

The Third Gift is a cube made of wood, two inches square, divided once in each direction, making eight cubes one inch square. These are packed in boxes which they exactly fit, the children being taught to place them exactly on the squares of the table, to remove the lid from under and raise the box without disturbing the blocks.

In the Second Gift the cube is dealt with as a whole. With this equal division the children become acquainted with the contrast of size, and the natural desire of children to see the inside of things and how they are made is satisfied. From this Gift they learn how to analyse and how to create new forms out of the cube, also to add, subtract, and divide.

The work of the Kindergarten is so arranged that its results are of the three following forms: first, Forms of Knowledge; second, Forms of Beauty; third, Forms of Life. The forms of Knowledge are the geometrical forms from which the forms of Life and Beauty are constructed. The cube and its mathematical divisions is one of the forms of Knowledge. We divide it right and left, making two halves, and it can be divided front and back and across with a like result. Then dividing each half again we have four quarters, the four quarters divided once we have eight eighths. The cube can be made up again by adding one block at a time; one block and one block are two blocks, two blocks and two blocks are four blocks, four blocks are two blocks are six blocks, six blocks and two blocks are eight blocks.

(To be continued.)

Avoid Excess of Machinery.—You are always in danger, while trying to reduce your school to a good system, of introducing unnecessary appliances and exercises. Many times these are used by a whole neighborhood, and so pass as a matter of course. Though you may plead precedent or common usage, yet they are a hindrance. Sometimes you don't think of these, so an occasional investigation is desirable, that you may see the real demand for this or that custom or practice. That teacher who had so many signals that he had to teach them to his pupils as he did their lessons, had too many. All excess of form or appliance weakens force. Some machines are so large that they consume most of the power in friction, leaving but little to be used in execution. A school may do the same. All appliances must be held strictly as means, not ends. They are means to the great end, education, growth, development. Don't mistake means for ends.—*The Educationist.*

ENGLISH IN SCHOOLS.

[*Continued from last month.*]

As to the best way of teaching English literature, I may speak the more briefly on this, inasmuch as a good deal to this point has been, I hope not obscurely, implied in the remarks already made.

In the first place, I am clear that only a few of the very best and fittest authors should be used; and that these should be used long enough, and in large enough portions, for the pupils to get really at home with them, and for the grace and efficiency of them to become thoroughly steeped into the mind. Bacon tells us that "some books are to be tasted, others to be swallowed, and some few to be chewed and digested." Of course it is only the latter that I deem worthy to be used in school. And I lay special stress on the pupil's coming at an author in such a way, and staying with him so long, as to study him with honest love and delight. This is what sets and fixes the taste. And this is a thing that cannot be extemporized: the process necessarily takes considerable time. For wise men's thoughts are a presence to live in, to feed upon, and to grow into the likeness of. And the benefit of a right good book all depends upon this, that its virtues just *soak* into the mind, and there become a living generative force.

Do you say that this shuts off from pupils the spur and charm of novelty? Yes, that it does, else I would not urge it. What I want first of all is to shut off the flashy, fugitive charm of novelty, so as to secure the solid, enduring charm of truth and beauty; for these are what it does the soul good to be charmed with, and to tie up in the society of—the charm of a "concord that elevates and stills;' while the charm of novelty is but as "the crackling of thorns under a pot"—not the right music for soul-sweetening. "A thing of beauty is a joy for ever." And they know nothing of the genesis of human affections who has not learned that these thrive best in the society of old familiar faces. To be running and rambling over a great many books, tasting a little here, a little there, and tying up with none, is good for nothing in school; nay, worse than nothing. Such a process of "unceasing change" is also a discipline of "perpetual emptiness." It is as if a man should turn free-lover, and take to himself a new wife every week; in which case I suppose he would soon become indifferent to them all, and conclude one woman to be just about as good as another. The household affections do not grow in that way. And the right method in the culture of the mind is to take a few choice books, and weave about them

> the fix'd delights of house and home,
> Friendships that will not break, and love that cannot roam.

Again: In teaching English literature, I think it is not best to proceed much, if at all, by recitations, but by what may be called exercises; the pupils reading the author under the direction, correction, and explanation of the teacher. The thing is to have the pupils, with the teacher's help and guidance, commune with the author while in class, and quietly drink in the sense and spirit of his workmanship. Such communing together of teacher and pupils with the mind of a good book cannot but be highly fruitful to them both: an interplay of fine sympathies and inspirations will soon spring up between them, and pleasant surprises of truth and good will be stealing over them. The process indeed can hardly fail to become a real sacrament of the heart between them; for they will here find how "one touch of nature makes the whole world kin."

Nor would I attempt to work into these exercises anything of grammar or rhetoric or philology, any further than this may be clearly needful or conducive to a full and fair understanding of the matter read. To use a standard author mainly as a theme or text

for carrying on studies in philology, is in my account just putting the cart before the horse. Here the end is, or should be, to make the pupils understand and relish what the author delivers; and whatever of philological exercise comes in should be held strictly subordinate to this.

With my classes in Shakespeare and Wordsworth, as also in Burke and Webster, I am never at all satisfied unless I see the pupils freely taking pleasure in the workmanship. For such delight in a good book is to me a sure token and proof that its virtue is striking in and going to the spot. Rather say, it is a pledge, nay, it is the very pulsation, of sympathy and vital magnetism between the mind within and the object without. And without this blessed infection beaming in the face and sparkling in the eyes, even the honest striving of duty on the pupil's part rather discourages me. So, unless I can get the pupils to be happy in such communion, I am unhappy myself; and this, I suppose, because it is naturally unpleasant to see people standing in the presence and repeating the words of that which is good, and tasting no sweetness therein. For "what is noble should be sweet;" and ought, if possible, to be bound up with none but pleasant associations; that so delight and love may hold the mind in perpetual communion with the springs of health and joy. And if I can plant in young minds a genuine relish for the authors I have named, then I feel tolerably confident that the devils now swarming about us in the shape of bad books will stand little chance with them; for I know right well that those authors have kept legions of such devils off from me.

From all which it follows, next, that in teaching English literature I would have nothing to do with any works in formal rhetoric, or with any general outlines, or any rapid and wide surveys, or any of the school reading-books now in use, which are made up of mere chips from a multitude of authors, and so can have little effect but to generate a rambling and desultory habit of mind. To illustrate my meaning, it may not be amiss to observe that some years ago I knew of a programme being set forth officially which embraced little bits from a whole rabble of American authors, most of them still living, but not a single sentence from Daniel Webster; who, it seems to me, is perhaps the only American author that ought to have been included in the list. The programme was drawn up for a course in English literature to be used in the public schools. Instead of such a miscellaneous collection of splinters, my thought was then, and is now, Give us a good large block of Webster; enough for at least two exercises a week through half a year. This would afford a fair chance of making the pupils really at home with one tall and genuine roll of intellectual manhood; which done, they would then have something to guide and prompt them into the society of other kindred rolls: whereas, with the plan proposed, there is no chance of getting them at home with any intellectual manhood at all; nay, rather, it is just the way to keep them without any intellectual home—a nomadic tribe of literary puddle-sippers.

As for the matter of rhetoric, all that can be of much use in this is, I think, best learned in the concrete, and by familiarizing the mind with standard models of excellence. For the right use of speech goes by habit, not by rule. And if people should happen to use their vernacular clearly and handsomely without knowing why, where is the harm of it? Is not that enough? What more do you want? If you would learn to write and speak the English tongue correctly, tastefully, persuasively, leave the rhetorics behind, and give your days and nights to the masters of English style. This will tend to keep you from all affection of "fine writing," than which literature has nothing more empty and vapid. Besides, it is only *after* the mind has grown largely and closely conversant with standard authors that studying rhetorical rules and forms can be of much practical use, however it may do for showing off in recitation. And I am in doubt whether it were not better omitted even then: for such study, in so far as it is trusted in for forming a good style, can hardly work anything but damage in that respect; and this because it naturally sets one to imitating other men's verbal felicities, which is simply a pestilent vice of style. Therewithal the study is but too apt to possess the student, perhaps unconsciously, with the notion that men are to "laugh by precept only, and shed tears by rule;" a sort of laughter and tears from which I shall beg to be excused. On this point, my first, second, and third counsel is—

> the live current quaff,
> And let the groveller slip his stagnant pool,
> In fear that else, when Critics grave and cool
> Have killed him, Scorn would write his epitaph.

Against the course I have been marking out, the objection is sometimes urged that it would cut pupils off from contemporary authors. It would do so indeed, and I like it the better for that. I have already implied that no literary workmanship, short of the best there is to be had, ought to be drawn upon for use in school. For the natural alliance of taste and morals is much closer than most people suppose. In fact, taste is, in my account, a kind of intellectual conscience: downright, perfect honesty is the first principle of it; solidity its prime law; and all sorts of pretence, affectation, and sham are its aversion: so that it amounts to about the same thing as the perfect manliness which I find in Webster's style.

Now, for the due approval of excellence in literary art, a longer time than the individual life is commonly required. Of the popular writers now living, probably not one in five hundred will be heard of thirty years hence. I have myself outlived two generations of just such immortal writers—whole regiments of them. Of course there are fashions in literature, as in other things. These are apt to be bad enough at the best—bad enough anywhere; but the school is just the last place, except the church, where they ought to be encouraged. Be assured that, in the long run, it will not pay to have our children in school making acquaintance with the fashionable writers of the day. For, long before the pupils now in school reach maturity, another set of writers will be in popular vogue; their tenure to be equally transient in turn.

Unquestionably the right way in this matter is, to start the young with such authors as have been tested and approved by a large collective judgment. For it is not what pleases at first, but what pleases permanently, that the human mind cares to keep alive. What has thus withstood the wear of time carries solid proof of having strength and virtue in it. For example, poetry that has no holiness in it may be, for it often has been, vastly popular in its day; but it has and can have no lasting hold on the heart of man. True, there may be good books written in our day; I think there are: but there needs a longer trial than one generation to certify us of the fact, so as to warrant us in adopting an author for standard use. And that a new book seems to us good, may be in virtue of some superficial prepossession which a larger trial will utterly explode. We need better assurance than that.

It is indeed sometimes urged that, if the young be thus trained up with old authors, they will be in danger of falling behind the age. But it is not so. The surest way of coming at such a result is by pre-engaging them with the literary freaks and fashions and popularities of the day. To hold them aloof from such flitting popularities, to steep their minds in the efficacy of such books as have always been, and are likely to be, above the fashion of the day—this is the true course for setting them *in advance* of the time; and unless they be set in advance of it, they will certainly fail to keep abreast with it. For the wisdom that has had the long and short approval of the past, is most likely to be the wisdom of the future; and the way to keep pace with the age is by dwelling

with its wisdom, not with its folly. In fact, a taste for the shifting literary fashions and popularities of the hour springs from shallowness and leads to shallowness. And to knit your pupils up close with old standards is the best thing you can do for them, both mentally and morally.

And I confess I like to see the young growing enthusiastic over the treasured wisdom and eloquence of their forefathers. This is a natural and wholesome inspiration, and such as the soul can hardly drink in or catch without being lifted and expanded by it. Worth much for the knowledge it furthers, it is worth far more for the manhood it quickens. And I think none the worse of it, that it may do somewhat towards chastising down the miserable conceit now so rife amongst us, that light never really dawned upon the world till about that glorious time when our eyes were first opened, and we began to shed our wisdom abroad. To be sure, the atmosphere of the past now stands impeached as being a very dull and sleepy atmosphere: nevertheless I rather like it, and think I have often found much health and comfort in breathing it. Some old writer tells us that "no man having drunk old wine straightway desireth the new; for he saith the old is better." I am much of the same opinion. In short, old wine, old books, old friends, old songs, "the precious music of the heart," are the wine, the books, the friends, the songs for me!

Besides, we have quite enough of the present outside of the school; and one of our greatest needs at this very time is more of inspiration from the past. Living too much in the present is not good either for the mind or for the heart: its tendency is to steep the soul in the transient popularities of the hour, and to vulgarize the whole man. Not that the present age is worse than former ages; it may even be better as a whole: but what is bad or worthless in an age generally dies with the age: so that only the great and good of the past touches us; while of the present we are most touched by that which is little and mean. The shriekings and jabberings of an age's folly almost always drown, for the time being, the eloquence of its wisdom: but the eloquence lives and speaks after the jabberings have gone silent, God's air refusing to propagate them. So let our youth now and then breathe and listen an hour or two in the old intellectual fatherland, where all the foul noises have long since died away, leaving the pure music to sound up full and clear.

WHAT ACADIA COLLEGE IS DOING.

BY M. MACVICAR, PH.D., LL.D.

To Acadia College, Wolfville, N.B., belongs the honour of being the first college in the Dominion of Canada to appoint a Professor of "The Principles and Practice of Education." This is eminently a progressive action. It is one of the most important steps in the interest of general education that has been taken in Canada for many years. The authorities of Acadia College, in inaugurating the new departure, deserve the strongest commendation for their clear appreciation of a pressing demand of our times. The step taken, however, is in line with present progress in university education. The advanced universities of Germany, for many years, have ranked "Pedagogics" along with other departments of higher knowledge. More recently Chairs of Education have been founded in the Universities of London, Edinburgh, and Glasgow. A provision for similar work has also been made in the Universities of Cambridge and Oxford, through what is known as the "Teachers' Training Syndicate." The University of Michigan, some four years ago, established a Chair of "The Science and Art of Teaching," and other universities of the United States are moving in the same direction.

THE PROBLEM OF EDUCATION.

There is an importance attached to this movement which deserves more than a passing notice. It may at first sight be supposed that a Chair of "The Principles and Practice of Education" makes simply a provision which applies only to those students who are preparing to be teachers. This is a great mistake. It is true teachers will receive special benefits, but the discussions of a Professor of Education should take a wider range than the consideration of methods of teaching and school organization and management. This is but one of the factors which enter into the problem of education. The family, the social, and civil circle perform their several parts in the development of human character. And each must be taken into full account in any well-devised educational scheme. A Chair of the Principles and Practice of Education must therefore include these as well as methods of teaching and school management. In short, it must include the discussion of all the educational forces that are operative in moulding the individual man, and in moulding society, and also the nature of the organizations and appliances necessary to make these forces productive of the highest good.

Can there be any doubt of the importance of such a chair in a well-equipped university? Indeed, without such a chair, can the students of our universities receive the instruction and training which will fit them to be what they ought to be—the leaders in educational matters, whatever their profession or vocation? We have no sympathy with the utilitarian view of education, which demands that everything in the college that has not strict reference to some so-called practical end should be thrown out. There is such a thing as the symmetrical development of a man in power, habits, and knowledge independent of his peculiar profession or vocation, and it should be the work of our colleges to give such a development. This, and this only, deserves the name of a liberal education. Such an education provides not only for the growth of the man in body, intellect, and heart, but also for placing him in living and active relation to the world without, to men and things. In no way can this latter object be more effectually accomplished than by giving to our college students a full and clear insight into the principles and laws that underlie and shape all our educational processes, in the family, in society, in the public schools, and in the universities and colleges. In this way our lawyers, physicians, and business men, as well as ministers of the Gospel who pursue a university course, and who, because of this, should be pre-eminently fitted to lead in everything that pertains to the elevation of mankind, would be prepared rightly to appreciate and intelligently to second every wise effort to introduce and carry forward such reforms in educational methods of work as the peculiar conditions of our times demand. Say what we may, until our educated men and women are in some way induced to examine and understand the principles and laws of human development which must be regarded in all educational processes, teachers and educators can never have the hearty support and endorsement, pecuniary and otherwise, in their work which will enable them to introduce into our schools and colleges absolutely needed reforms.

NEED OF PROFESSIONAL STUDY.

In view of considerations like the foregoing, we regard with great pleasure the new departure in Acadia College. The authorities of the college are worthy of great credit for the action taken—an action which is fraught with special interest to all true friends of educational progress in Canada; an action also which, in a remarkable degree, is calculated to promote the highest interest of that noble band of men and women known as "the teachers of the Dominion." Let the men who are to occupy the positions of head an assistant

masters in our grammar and high schools and collegiate institutes be required, during their university course, to make a thorough study, under able professors, of the philosophy of education in all its phases, and the effect upon the rank and file of the profession will soon be felt. Subordinate teachers, who must necessarily come under the influence of such men, will be gradually raised to a higher plane of excellency both in knowledge and practice. It is not too much to say that at present the neglect of such professional study and training upon the part of graduates of our universities is a great hindrance to educational progress, and to the efficiency of our public schools. In not a few instances will it be found that teachers whose education fits them only for subordinate positions have studied with far more care the principles and laws of teaching and school organization and management than the head masters under whose direction they are working. Yea, more, they have not only studied these principles and laws more fully than their superiors, but the effect of their study is clearly seen in the excellency of their work. Such a condition of things, so far as it exists, cannot but be injurious to our schools. Head master should mean more than a name. It should certainly mean a man who has given such attention to professional studies as qualifies him to direct intelligently and in the best manner the work of the teachers in every department of the school under his charge. He should in professional knowledge, and ability to apply this knowledge in the instruction and management of his school, be at least the peer of the best of his subordinate teachers. When the noble example of Acadia College is followed by every university and college of the Dominion, we may hope to see men with such professional qualification occupy the head and subordinate masterships in all our higher schools.

The authorities of Acadia College are worthy of equally strong credit and commendation for the selection they have made of a man to fill the newly-established chair. No better man could be chosen than Dr. Rand. His training and experience are co-extensive with the duties he undertakes to perform in his new position. He graduated in the college with high standing, and was in after years honoured by his *Alma Mater* with the degree of D.C.L. He has performed in the most successful manner every kind of educational work to which he must call the attention of his students in his lectures. He first taught in Horton Academy, then in the Normal School of Nova Scotia. He was from 1864 to 1871 Chief Superintendent of Education of the Province of Nova Scotia. Since that time until he accepted his present position he was Chief Superintendent of Education in the Province of New Brunswick. From the nature of the work he has performed it is evident that he has had just the training and experience required to qualify him for the professorship to which he has been called. But we must add to this practical training the fact that he has made for many years the philosophy and practice of education the subject of profound study. We repeat it, a better man could not have been chosen for the new professorship. Dr. Rand carries into his new work not only those natural and acquired qualifications we have described, but also the irresistible power of strong common sense and Christian manhood.

The estimate in which Dr. Rand is held by those who have the fullest right to know him best is well expressed in the following extract from a paper published where he has resided and done his work for many years :—"We look upon the appointment of Dr. Rand as the pioneer professor, whose mind will first give direction to the new enterprise of his *Alma Mater*, as the happiest one that could possibly have been made. No man in Canada, now that Dr. Ryerson is gone, has studied so profoundly the whole theory and practice of education. In the most difficult work of inaugurating our free school system, to which for long years he has devoted his time, thoughts, and energies to an extent that has made men wonder how he stood the enormous strain of work at times placed upon him, he has been compelled to grapple with every side—practical or theoretical—of the educational problem. The details of his management have at times been subjected to severe criticism, and we have ourselves more than once felt obliged to oppose his methods or views. But no critic ever found him unwilling to face the test of private or public discussion, and all who came in contact with him felt that they had to do with one who was a master of his chosen subject. Moreover, however men might at times criticise his ideas, we have yet to hear of any one who questioned his absolute, unqualified, and heartfelt devotion to the cause of education. It is the last point which, in our opinion, constitutes his highest claim, high though others may be, to the post which he is now called upon to fill. His heart will be in his work there, as it has been here in the difficult position he has had to occupy."—*Globe.*

School-room Ventilation.—With the approach of cold weather every teacher should give close attention to the ventilation of their school-rooms. Thermometers are well, but in most instances the child in its seat, with no opportunity to change its position for half an hour at least, is the safest test of what should be the temperature of the room. Teachers can change position frequently. Better to risk the evils of impure air on a chilly day than prejudice the health of the children by admitting currents of cold air upon the heads and shoulders of pupils who are unable to change their position. Currents of air through open windows, from above or below, upon children confined to their seats should never be allowed. It is both wicked and cruel.—*American Teacher.*

Why Some Teachers Fail.—They are easily discouraged. They do not try to improve. They fail to know what the world is doing. They fail to have new ideas. They read no educational papers or books. They follow the same method with each class. They attend no teachers' meetings. They complain too much. They do not study their lessons. They fail to practice what the educational papers tell them. They do not determine to be the best teachers in the place. They forget that the art of teaching is an art that requires study. The do not seek information by studying the methods of the best teachers.—*Lansing Republican.*

The Recitation of a primary class should not continue longer than from ten to twenty minutes. Short study and recitation periods, alternating with recreation, will characterize the daily programme of the wise teacher. Furnish children with plenty of hand-work, and change the work at the study-seats at short intervals, and they will not grow weary of school duties.

English Composition.—Professor Huxely said in a recent lecture: "I have said before, I repeat it here, that if a man cannot get literary culture of the highest kind out of his Bible, and Chaucer and Shakespeare, and Milton, and Hobbes, and Bishop Berkeley, to mention only a few of our illustrious writers—I say if he cannot get it out of those writers, he cannot get it out of anything; and I would assuredly devote a very large portion of the time of every English child to the careful study of the models of English writing of such varied and wonderful kind as we posess, and what is still more important, and, still more neglected, the habit of using that language with precision and with force and with art. I fancy we are almost the only nation in the world who seem to think that composition comes by nature. The French attend to their own language, the Germans study theirs; but Englishmen do not seem to think it worth their while."

The End of the World.—Of Theodore Parker and Emerson, Mr. Conway tells an amusing story which he calls allegorical, how "Once when Theodore Parker had just parted from Emerson on the road to Boston—the importance of which city in the plan of the universe they had discussed—a crazy Millerite encountered Parker and cried, 'Sir do you not know that to-night the world is coming to an end?' To which Parker replied, 'My good man, that dosen't concern me. I live in Boston.' The same fanatic presently announced the end of the wolrd to Emerson, who replied, 'I am glad of it; man will get along better without it.'"

Write us some notes on educational matters and enclose them with your subscription.

Promotion Examinations.

ARITHMETIC.

SECOND TO THIRD CLASS.

1. Multiply the difference between 80013012 and nine hundred and ten thousand and forty-nine by 7094.

2. The remainder is 2021; the quotient, 76981; the dividend, 631140571490004; find the divisor.

3. Show, both by subtraction and division, that 798 can be taken 13 times from 10257. When two terms of a question in subtraction are given, how is the third found?

4. A tract of land cost $6193785, the price per acre was the difference between $150 and $81; how many acres were in it?

5. What number added to the sum of all the numbers that exactly contain 9, between 1 and 100, will make a million?

6. Tell carefully your methods of proving questions in subtraction, multiplication, and long division. Write the sign of each and tell its name.

7. Divide the product of the largest two of the following by what the sum of the smallest two is less than one hundred thousand: 794869, 43987, 598, 704.

GEOGRAPHY.

THIRD TO FOURTH CLASS.

1. On what continents are Negroes, Indians, and Whites found in greatest numbers? Name the remaining continents and the oceans bordering on them.

2. Give a country in which tobacco grows abundantly, tea, oranges, sugar cane, pepper, rice, wheat, cotton, grapes, cocoanuts.

3. A boat sails close to Ontario from Point Edward to Montreal; state the counties passed, giving one railroad in each.

4. Name the cities of Ontario. Starting from London, visit each, telling the railroads passed over.

5. "Canada is rich in minerals." In what provinces are the following found: Gold, copper, lead, iron, silver, coal, petroleum, salt?

6. Why is Ontario the most important Province in the Dominion? Name the provinces and give the number of square miles and capital of each.

7. State the exact position of the following:

CAPES—Chidley, Sable, Flattery, Hurd, Gaspé, Horn, Race, Breton.

ISLANDS—Walpole, Anticosti, Bahama, Jamaica, Bermuda, Iceland, Christian, Navy.

TOWNS—Kincardine, Windsor, Ingersoll, Dundas, Brighton, Bradford, Madoc, Oshawa.

BAYS—Fundy, Fortune, Georgian, Quinte, Long Point, Rond Eau, Pigeon, Burlington.

ARITHMETIC.

THIRD TO FOURTH CLASS.

1. A bar of iron one perch long, $\frac{1}{2}$ yd. wide, and 16 inch. deep is melted and made into blocks, each $\frac{1}{27}$ of a cubic yard; how many were there?

2. How many square fields of the largest possible size can be made out of a tract of land 527 perches long and 403 wide? Find the number of square inches in one of them.

3. Thirty-five hundred pounds of sugar are bought at 8 cents per lb. avoirdupois, at what rate per lb. troy must it be sold so as to neither gain nor lose?

4. Two men 150 miles apart are walking in opposite directions at the rate of $4\frac{1}{2}$ and $3\frac{1}{3}$ miles per hour respectively; suppose they walk 12 hrs. a day, in what time will they be 300 miles apart?

5. Find the smallest number that will exactly contain 3007, 3977, and 5917. Why cannot the highest common multiple of these three numbers be found?

6. If 5 be added to both terms of the fraction, $\frac{4}{9}$, find how much larger or smaller it has become. What operations can be performed on both terms of fraction without altering its rule?

7. Carefully make out the following:

4500 lbs. of coal at $3 per ton.
196 " " wheat at $1.19 per bushel.
3 oz. of gold at $1.07 per dwt.

GRAMMAR.

THIRD TO FOURTH.

1. Give the past tense, present participle, and perfect participle of each of the following rules: swing, mow, grew, rind, rise, eat, dye, die, know, fly.

2. Name the moods. Compose a sentence to illustrate each.

3. With the objective plural of I, he, thou, she, we. Give sentences showing the different ways the nominative may be employed.

4. Correct these:

Him and me seen the bird that flied.
Who done it, our town baker.
I saw the nun that was there.

5. Parse italicized words:

Here are the *children who* played truant.
Jane's chickens are *all black*.
The man *whom* you *see* shot a *lion*.
John, you are the *boy* who said *so*.

6. Compose a notice offering one dollar reward for the recovery of a book you lost.

7. What is the difference in meaning between

Have you seen Jane and Mary's birds?
Have you seen Jane's and Mary's birds?

ENTRANCE TO HIGH SCHOOL.

1. Give the circumstances in connection with the founding of Osterbygdt and Westerbygdt. What is a colony?

2. How was Christianity introduced into Greenland. From words used in the lesson, infer what denomination sent the missionaries. Define missionaries.

3. What reasons for thinking Eric Rudd did not leave Iceland alone? Show the object he had in view in misrepresenting the fertility of Greenland.

4. Tell what you know about the destruction of the colonies.

5. Where is the ice formed that blockades the coast of Greenland? Are there any reasons for thinking the climate of Greenland was milder than it is now?

6. What inference is drawn by Scrusby from the finding of domestic implements?

7. Form six simple sentences with a different one of these words in each: exaggerated, designated, emigration, mystery, exodus, oblivious. Give the meanings of the words.

8. Under the following heads give an abstract of the lesson.

1. Settlement.
2. Progress.
3. Destruction.

Subscribe for the "Canada School Journal."

Practical Department.

SUPPLEMENTARY READING.

All who are conversant with the leading educational topics of the day are doubtless familiar with the title of the paper which I have the honor to present for your consideration: it includes all school reading outside the regular text-books, and I propose to treat the subject under two general heads, viz.: *Where should it be commenced?* and *What should it be?*

I am willing to concede that the present school Reader should have a place in the school-room for the purpose of aiding the child in obtaining knowledge of the orthography and use of words; but I am unwilling that it should monopolize his time and attention throughout his entire school course. I do not object to a child's supporting himself, while learning to walk, by chair, table, or wall; but I will not agree that he must continue this practice for months and years: and yet to my mind the practice of using a text-book in reading as a "help to read" throughout his entire school course is no more pernicious and paralysing to his mental growth than the constant fetters of artificial aid would be to the free development of his physical organization if applied during all the term of his adolescent years. Millions of children leave school without ever having read a story of more than two pages in extent; in fact, every child does so unless his school training has been supplemented by home instruction.

Instead of inculcating a love for the best authors in history and fiction, by the course pursued in most schools we encourage and foster the baneful habit of scrap reading in our pupils to such an extent that vast numbers of them make the journey of life without ever having read a book.

In contemplating the mental condition of one of this class, and lamenting his lost opportunities, we may fitly apply the words of the poet, and say of the result of this line of instruction:

> But knowledge to his eyes her ample page,
> Rich with the spoils of time, did ne'er unroll;
> Chill penury repressed his noble rage,
> And froze the genial current of his soul.

To counteract this evil, I would introduce, after the completion of the Second Reader, such books as "Robinson Crusoe," or the "Swiss Family Robinson," and "A Child's History of the United States"; and by giving the same time to the reading of books of this character that is now devoted to the text-book in reading, there will be abundant opportunity for all our children, within the term of their school-life, to read the history of every nation and people that has existed since the dawn of the earliest civilization.

I have stated that the Second Reader should be the last of the regular readers used; but this is merely a suggestion, for I would fix no arbitrary period at which to begin a general course of reading, but would recommend that it be commenced as soon as the child has a knowledge of a sufficient number of words to enable him to read intelligently the simplest stories that can be obtained. As to what he should read, let there be only the limitation that it be pure and good, and in harmony with the chords of an immortal nature. It might be from the daily papers, from magazines, from novels, from histories, from anything or from anywhere—if only the subject is pure and interesting and instructive. I would not exclude scrap reading, although I seriously object to limiting the child to it.

In teaching reading, there are three things to be kept constantly in view:

1st. *To teach a knowledge of words.*
2nd. *To teach a knowledge of facts.*
3rd *To give the pupil a taste for good reading.*

For the purpose of acquiring a knowledge of words, no better agency can be used than the daily and weekly newspaper, from which can be culled appropriate paragraphs giving accounts of accidents and happenings—the subjects and actors of which are all well known to the pupil. By this plan the class that but yesterday was dull and sluggish while poring over the well-worn and well-known pages of the school Reader is awakened to new life—is made conscious of a new power, and imbued with a zeal and energy that were strangers to it while circling in the treadmill of the regular school work.

When the vocabulary of the child is sufficiently enlarged, I would so extend these selections that his reading would lead to the acquisition of important knowledge. I would advance him from the reading of local notices to the perusing of general news, including telegrams from all parts of the civilized world; and here I would introduce the study of "newspaper geography;" the subject-matter of the article should be discussed by teacher and pupil in such a manner as to be both interesting and instructive. The city and country from which it comes should be located on the map, and the fullest elaboration given orally of the character of their people and their form of government.

But there is another object to be attained in school reading which is not reached by means of newspaper reading, viz.: continuity of thought, which is necessary to be cultivated as the most important of the mental processes of the scholar; and its acquisition can best be secured by directing the attention to a single subject for an extended period of time, under the pressure of the most energetic concentration of the thinking faculties. If the schools overlook this point of mental culture, their work will be incomplete. This branch of training, however, may more properly be assigned to the highest primary and grammar grades, where history, biography, and carefully-selected works of fiction can be comprehended and enjoyed; the reading of this class of books will also create a love for pure thought and a pure style.

If the schools will but do their duty in supplementary reading, the yellow-backed, pernicious literature that flaunts its signal of vice from every news-stand would soon be without a purchaser. Is there any one so gifted with imagination that he could picture contentment in the heart of a child, while reading the exploits of Dick Turpin, if the same child had revelled for years in the pages of Hume, Macaulay, Bancroft, Addison, Taylor, Abbott, Shakespeare, Scott, and Dickens? The fault of our schools in teaching reading is, that too much time is given to manner—we teach how to emphasize, but not how to understand—we give too much time to oral expression, and not enough to mental culture.

The chief advantage which is derived from the study of the ancient languages comes from the fact that the whole time and energy of the student is given in the effort to comprehend the thought of the author, and no time is wasted in elocutionary claptrap.

To be a good oral reader or public speaker is certainly a great accomplishment, but I do not believe either of them to be of paramount importance.

Under the present plan of teaching reading, one would suppose every child was being trained (and badly trained) for the forum or the stage, no notice being taken of the fact that not one in a thousand will ever be public readers; and the nine hundred and ninety-nine are required to drill for years on emphasis, facial expression, and gesture, to the almost entire exclusion of the more weighty consideration, *a ready comprehension of the written thought.*

If, in after years, some one of our present pupils should be discovered seated in his own parlor, reading a scientific article from the "Popular Science Monthly," and wildly throwing his arms in

every imaginable direction, while twisting his face to give expression to the words of the author, it would very likely suggest the propriety of appointing a commission *de lunatico inquirendo.* Alas! the hours that have been wasted in training the twelve-year-old child to properly deliver the masterpieces in thought and oratory of Pitt, O'Connell, Webster, Clay, and Calhoun—when it is apparent to every thoughtful person that this same child will have to wait a score of years before he will have sufficient mental development to grasp the conception of these great men.

Thomas Jefferson said, when contemplating the institution of slavery, that he trembled for his country when he reflected that "*God is just!*" I, too, tremble for my country when I reflect that *that justice still lives,* and is the pursuer of all faithless husbandmen in the vineyards of the world who bring "nothing but leaves" to the Master's harvest, and with sinful prodigality fling away the precious hours of our youth on the barren wastes of fruitless theories and idle speculations.

Supt. Geo. J. Luckey, of Pittsburg.

PROFESSIONAL TRAINING OF HIGH SCHOOL TEACHERS.*

BY PRINCIPAL M'HENRY, COBOURG COLL. INST.

The reasons given by the Minister of Education and his advisers for the proposed regulations touching this question are substantially the following:

1. No untrained Public School teacher can any longer obtain even a third-class certificate, and the almost universally-accepted principle involved in this law applies to the work of High School teachers, as well as to that of Public School teachers.

2. The character of the teaching in many of our High Schools is such that, in the interests of secondary education, a course of preparatory training should be absolutely required of all high school teachers.

We have herein recognized the general principle which underlies all Normal School training, and certain facts urged in support of a measure intended to give practical effect to this principle.

The reports of the High School Inspectors for 1880-1, in referring to this subject, perfectly agree, both as to the general principle above stated and the alleged character of the teaching in our High Schools. The Inspectors, for example, agree in such statements as these:

"Teachers *naturally* gifted (*i.e.*, who need no training) are found only now and then in a generation. Therefore, as a rule, training is necessary."

"A university degree is no guarantee of ability to teach."

"The elements of true manhood are developed only by the personal contact and influence of *the true teacher* upon the scholar."

"Public School teachers now receive their training and ideas from the teachers in High Schools. The latter should therefore be trained for their work."

"Young teachers are sure to follow hurtful methods, and become good only after a succession of experiments and failures."

"The supply of skilled teaching in the High Schools of Ontario is not equal to the demand."

"There are many who, from lack of training, are unable to do work of a really high character."

"Misdirected energy, faulty discipline, empirical, capricious, and changeful methods, waste of time, neglect of foundation work, hazy and pointless and inconsequential presentation of subject-matter—may be specified as among the most prominent faults in those who have not made the art of teaching a distinct study."

The Inspectors, in accordance with the principle referred to, and in view of the facts cited, urge upon the Minister the necessity of at once providing the means whereby an improved state of things may be brought about. The Minister admits the force of these representations, their suggestions meet his approval, and, after due consideration, he takes steps to give them practical effect. The first definite proposal is to utilize Upper Canada College for the purposes of a Model High School. This idea is apparently abandoned, and, instead, it is proposed to establish at the Education Department, Toronto, a course of lectures on professional subjects, for first-class teachers and High School masters. A Regulation is framed accordingly, and in July, 1882, is approved by Order in Council. This Regulation, however, is subsequently suspended, the reasons for which have not yet been officially stated.

The question evidently has not reached a definite settlement; and hence it may not be deemed inappropriate for us to discuss it, and if it be thought advisable, formulate our views thereon.

Before expressing an opinion myself, or leaving the question with you for discussion, it may be well to notice some of the objections urged against the Regulation. For convenience they may be classified as follows:

I. Objections offered professedly in the interests of those who are usually appointed assistant masters in High Schools; for example:

(*a*) "This Regulation would prove a serious obstacle to many deserving young men, and prevent their ever taking a university degree. Many of these work their way through college by teaching in High Schools for a year or two; and it would unreasonably interfere with their course to require them to spend the additional time necessary to take a special course at the Education Department or Normal School."

(*b*) "It would be rather lowering to university graduates to have to attend a Normal School after going through college, and to take up a course intended for Public School teachers."

II. Objections which in effect condemn Normal School methods as essentially defective:

(*a*) "The training which is proposed would not be materially beneficial. Necessarily formal and mechanical, the course would tend to produce a *dead uniformity* in our High School teaching."

(*b*) "It will also fail to furnish these young men with that inspiration for their work which they can receive by associating with their college professors. In the latter case 'the contact of mind with mind' will supply both a knowledge of the subject to be taught, and that superior inspiration which will qualify them to impart the knowledge to others."

(*c*) "These young men do not really require such a course, for they have already been associated not only with college professors, but previously with High School masters, whose methods they have observed."

(*d*) "Some of our best High School masters never attended a Formal School."

(*e*) "If a High School is furnished with a first-rate teacher as head master, there need be very little importance attached to the skilled requirements of his assistants."

III. Objections which arise evidently from a fear lest graduates and undergraduates of denominational colleges may be required to attend lectures on certain subjects in Toronto University.

Now if it can be shown that objections of either class are valid, the proposal of the Minister could not and ought not to be favorably received. If the real interests of High School masters are to be sacrificed; if the principles commonly supposed to underlie nor-

*Published by request of the H. S. Section, Ontario Teachers' Association.

mal methods are radically defective; or if the Regulation can be shown to operate solely in the interests of *one* university, then, of course, it should be opposed by every High School teacher—in fact by every educationist in the country.

If, on the other hand, it be found that the proposed Regulation will really benefit these teachers, by greatly improving the character of their teaching; if the friends of the measure can satisfy us that the special course will give a thorough training in the theory and practice of teaching, in harmony with the generally accepted principles of good Normal Schools; and if the outlying universities are assured that their interests are in no way to be interfered with —no true friend of education, certainly no intelligent teacher, will be found to oppose the measure.

After carefully examining the question, I am of the opinion that the reasons assigned for introducing this Regulation are such as fully to warrant the Minister in requiring a suitable professional training of all who teach in High Schools, as in the case of those who teach in Public Schools; that most, if not all, of the objections enumerated can be satisfactorily answered; and that we as a Section, after full and fair discussion, will conclude that at least the principle on which the Regulation is based is indisputably correct.

Taking these objections in order, permit me briefly to refer to each of them.

I. In the *first* class may be placed about the only form of opposition that has appeared in the newspapers—a defence of the supposed interests of those who are or are to be masters in our High Schools. And the sole plea for perpetuating the existing state of things is, in effect, that by the new rule an old and well-worn stepping-stone to other callings is likely to be removed, or rendered less accessible. The question, of paramount importance, how we can best secure the highest attainable efficiency in our High Schools, is almost entirely overlooked, in the plea for those whose quiet enjoyment of a special privilege is likely to be disturbed. I think it can be shown that some such regulation as the one proposed would ultimately benefit not only the High Schools, but also temporary teachers in these schools.

That well-trained, experienced teachers are preferable to novices in any class of schools, no one can doubt. As Goldwin Smith remarks, "Of all matters, Public Education most needs stability, and shrinks most from the touch of 'prentice hands." To object to a regulation which aims most at gradually displacing inexperienced teachers and filling their places with well-trained teachers appears to put a premium on mediocrity and inefficiency, and to regard the temporary advantage of certain individuals as of greater importance than the status of our secondary schools. In other words, to say that we *cannot* greatly improve in our teaching would indicate great ignorance on our part of what good teaching is, and of the actual state of our schools at the present time. To admit that we *can* improve in our teaching, and yet to oppose a measure which will soon provide a supply of good teachers, indicates a deplorable lack of interest in higher education, if not a willingness to sacrifice *the school* for the sake of *the teacher*.

I think it devolves upon those who are opposed to any change to show that, contrary to the united testimony of the Inspectors, the teaching in our High Schools is on the whole satisfactory; and that if the two hundred and thirty assistant teachers now employed (to say nothing of head masters) had *all* received a good professional training, the work would not be of a much higher order. I say it devolves upon such objectors to show cause; for, from what we know of the work of well-trained public school teachers, we have a right to assume what every true educationist will admit, that well-trained High School teachers would produce results far superior to those of novices, many of whom begin their experimenting on High School classes.

But if it be admitted that the interests of our High Schools would be promoted by employing in them none but those who are proved capable of properly doing the work required, then it simply becomes a question of High School interests *versus* the personal interests of inexperienced temporary teachers.

I submit, however, that to leave the masterships of our High Schools accessible to inexperienced and therefore comparatively insufficient persons, merely because they desire to work their way turough college, or for any similar reason, is both unreasonable and unjustifiable.

Surely no one will contend that those who frame our school regulations can be expected to provide temporary employment for any class of persons, if it can be shown that by so doing they are imperilling the educational interests of the country.

Why not distribute the operations of this transitory, temporary system of experimenting over all the leading professions? Is there any good reason why an inexperienced person should be permitted to minister to the wants of a child's *mind* in its education, and prevented from administering to the wants of its *body* in case of disease? We do not find our Medical Council and Law Society charged with heartlessly "throwing obstacles in the way of young men," because they require a certain amount of experience in all whom they allow to practise. It appears to be left to the teacher's occupation to supply the means which in many cases ought to be obtained from such other employments as can safely be undertaken with little or no preparatory training.

The great fallacy lies in assuming that the teaching profession is a common thoroughfare along which any person may pass, with no other preparation than a knowledge of the subjects to be taught. Under such circumstances, "The teacher gains access to the sanctuary of the mind without difficulty, and the most tender interests for both worlds are entrusted to his guidance, even when he makes pretension to no higher motive than that of filling up a few months of time not otherwise appropriated, and to no qualifications but those attained by accident."

Why it should be considered an improper thing for a university graduate to spend a few weeks with first-class candidates in a special course at the Education Department is not easy to understand. Possibly some misapprehension exists in regard to what is actually intended. Some there are who suppose that the Regulation requires attendance for a full session on lectures by Toronto Normal School teachers: others, that a few dry lectures by specialists are to be given, without any practical work. The announcement of fuller particulars will no doubt remove such apprehensions, and make it clear to every young graduate worthy to teach in a High School that the course proposed, instead of humiliating him, will rather tend to confer upon him that dignity which is felt only by those who are conscious of being fairly prepared for this work.

I can therefore see nothing unkind or unjust to our young men in the course proposed. Those intending to make teaching their life-work will not be slow to avail themselves of the advantages arising from a good preparatory course of professional training; and it is but just that those who merely desire to make the position a stepping-stone to some other calling be required also to fit themselves for discharging the high trust they thus undertake to fulfil.

If there is any injustice at all, it lies in the injury done to *permanent* teachers by persons who press into ranks already full—thereby cutting down salaries and displacing men who, in view of teaching as a life-work, have duly prepared for it. I would suggest that if "obstacles could be thrown in the way" of somo young men *at this point* it would be only an act of justice to many honest toilers in our schools, who, by reason of such supplanters, "stand in jeopardy every hour."

I contend, moreover, that the Regulation, instead of operating against temporary teachers, would ultimately benefit even them. Those who thus make one position a step to another very naturally have constantly before them their future calling. To fit thousands for their life-work they employ their best energies; their special studies lie in this path; while temporary employment often degenerates into formal routine, destitute of high motive or real enthusiasm. In fact no one can long occupy such a position without convincing proof of inefficiency—not necessarily a want of knowledge in the subjects taught, but inability properly to impart this knowledge to others. To this may be added the difficulties in government and discipline which usually beset all beginners. This it is which I think must prove anything but helpful to one preparing for other work. As compared with an assurance of success, this feeling of failure is very depressing to any young man of spirit, and must unfit him for calmly pursuing his course of private reading. On the other hand, success in temporary employment conduces to success in future fields of labor. Hence I say that if every one wishing thus to spend one or two years in High School teaching were first to learn the practical details of his work, he would reap the benefit not only while teaching, but also when exclusively devoted to his chosen vocation.

It seems but fair, then, to all concerned that a special course of professional training form an essential part of the outfit of all our teachers.

All this may be said, and is intended, without generally condemning the work now done by temporary teachers; but when to the concurrent testimony of the Inspectors and the opinion of many experienced head masters we add the frank admission of a large proportion of those young men themselves, I think we must conclude that under the present system in the case of inexperienced beginners comparative inefficiency is the rule, and first-class teaching the exception.

II. To discuss fully the *second* class of objections would open up questions of an extent quite beyond our present limits. These objections, briefly stated are: *Teaching* cannot be *taught;* there is no *philosophy* of teaching—no such thing as a *science* of education. This antiquated notion is less frequently entertained now than before the relative superiority of well-trained teachers was fully established. It is now generally admitted that while teachers who have not been normally trained reach their level—stop growing—on an average at the end of three years of service, good Normal School teachers continue to improve throughout their entire career. Can any one give a good reason why such should not be the case? This fact is now *practically recognized* in all countries that rank high in popular education. The precedent found in Germany, with her forty or fifty lectures on Pedagogy and Didactics each semester, by university professors; the example of various countries of Great Britain; suggestive and encouraging results in France, Italy, Austria, Switzerland, the United States and elsewhere, ought surely to dispel any doubts which exist in regard to the increasing importance attached to skilled labor in education.

I do not share in the fear lest a *dead uniformity* be the result. The condition most to be feared is a *lifeless mediocrity*, as the result of aimless, desultory experimenting of novices left free to invent their own methods. Intelligent well-trained teachers may adopt similar methods of treating given subjects, and yet have scope for originality. They are not necessarily servile imitators; but, mentally appropriating the principles of a good system, retaining meanwhile their own personality, they reproduce them in their own way. That is, the adoption of scientific principles in teaching need not conflict with a judicious employment of original methods.

The *untrained* teacher, on the other hand, not having been taught at the outset *how to avail himself of the practical experience of the best educators*, must blindly follow his own empirical methods, with those results which are admirably characteristic of the average beginner.

Let us welcome, then, any measure that will lift our teaching wholly from this condition of empiricism, and give it a settled scientific status. Not until this take place, will our work rise to the dignity of a profession, nor will teachers receive the consideration which appertains to the professional character.

Whether the average college professor will impart enthusiasm to be compared in kind or degree with that which may be created by persons likely to be selected for the special course proposed, is very questionable indeed. Besides, at present many become High School teachers without ever entering college, and a large proportion of our assistant masters first accepted their positions as undergraduates. It should not be forgotten, moreover, that any assistance received by those who do attend college is altogether incidental, since no provision is made in our universities for lectures on pedagogics, such as are given at Harvard, etc., to say nothing of German and other universities, If such chairs were established, well-directed enthusiasm there received would count for something. At present, however, it is to be feared that our universities furnish no superabundance of helpful inspiration. Professors are supposed to be interested in their special departments, and students in whatever will aid them in their course. But to suppose that by a few hours' intercourse per week with an enthusiast in classics or science a student will unconsciously absorb anything that will reappear to aid him on the occasion of his first facing a class in a High School, is in the highest degree unwarrantable. What young men get from such professors, in addition to an acquaintance with the subject, is at most a love for study, possibly an ambition for a post-graduate course. What they need, as prospective teachers, but do not get, is practical instruction in the best methods of imparting knowledge. For a young teacher to attempt to imitate his professor's usual style of lecture, however good in its place, would indicate a serious want of tact and power of adaptation. Some conspicuous failures in teachers may be traced to this practice of half-unconsciously imitating a style inappropriate to High School work.

It is as unreasonable to hold college professors responsible for the early efforts of such graduates as it is to claim for them the requisite ability to supply our High Schools with teachers *who can teach* without first being *trained.*

Then it is said that our graduates and undergraduates, when preparing for college, had ample opportunity in High Schools to see how classes are there conducted. Granted; but who can guarantee that the young men, say, who this year matriculated have been taught by methods which it is desirable to perpetuate? Those most familiar with our teaching as a whole, while giving high rank to many teachers, are frank enough to condemn in unmistakable terms the work of many others. Besides, as our more experienced teachers drop out of the ranks, and their places are in this manner supplied by inexperienced men, it is easy to see what the average teacher will be a few years hence—certainly not an improvement on the present. Is this result desirable? Would we apply such a rule to Public Schools? Why not? Why trouble *them* with a professional course? Are the subjects of the High Schools' curriculum of less importance than that of the Public School? Or are we to believe that the principles which lie at the basis of all successful teaching in elementary work may be disregarded in advanced subjects?

It may be a somewhat humiliating admission, but I candidly believe that the average teaching in our leading town and city Public

Schools is superior (in methods employed) to that in many high Schools. The inference is quite natural, that as these Public Schools have advanced from the position they occupied years ago, when many of them were in the hands of untrained teachers, so in like manner would the teaching of our High Schools advance if none but experienced teachers taught in them. And this is precisely the result sought by the Regulation we are considering.

Doubtless some will say that we have many excellent teachers who never received a professional training of any sort. This no one can deny; but they have risen to eminence only after years of experimenting, whereas, if previously trained, they would have much sooner attained this eminence and avoided the more serious errors characteristic of such experimenting. The children upon whom their early trials were made are children no longer; they are beyond the reach of those who would now be glad to correct the mistakes of early teachings. They have gone forth, too many, alas, to bear for life the impress left by unskilled hands. Every honest teacher, in thoughtful moments, with the scenes of his first efforts and facts such as I have referred to before his mind, cannot fail to find cause for serious reflection. And the question arises—cannot this first chapter be omitted hereafter? Why not have this *trial-teaching* at a time when such errors can be detected, criticised, and corrected?

Specific training is as much needed for teachers as for physicians. Careful preparation and varied experience are as valuable in the school-room as in the sick-room; and he who knowingly employs an incompetent person in the first case cannot consistently refuse to do so in the second. Let us, therefore, do all in our power to give proper form and full effect to any measure which will likely place well-trained teachers in every High School in Ontario.

The proposal to apprentice untried assistants to head masters is absurd. To begin with, head masters have enough to attend to, without nursing a number of inexperienced teachers, even supposing the former capable of the task, and the latter of a teachable spirit. There are schools where for years some such system has prevailed. They have been made a kind of practising ground for raw recruits, who put in their experimenting drill for two or three years, and then retire, to make room for a new set. Inspectors may complain of frequent changes of teachers; parents may protest against the unsettled and disturbing character of the teaching; trustees may grow impatient of being called on to accept resignations and make appointments; and head masters, the drill sergeants, even may grow weary and disheartened under special burdens; but until the door is closed to untrained teachers, the solemn farce will continue. Who can suggest any other remedy? Young men who have not taught must learn how to teach in some way, either after they are appointed as assistants or before. In the name of common sense, why not *before*—imperatively before?

The blundering of substitutes for regular telegraph operators is amusing and insignificant compared with the operations of educational empirics. The former they rectify by "repeats," but repetition with the latter generally repeats the mischief. No; instead of making head masters responsible for the troubles and failures of inefficient assistants, let these come to their classes prepared like men to do their work efficiently and bear their own responsibilities.

THE COURSE OF TRAINING REQUIRED.

Since we have our County Model School and Provincial Normal Schools, if a Model High School could be established, it would give symmetry to the system. This was Dr. Ryerson's idea twenty years ago. The nearest approach to it was the proposal to utilize Upper Canada College for the purpose. In favor of a Model High School much might be said. Theoretically it is just what is needed. With a carefully selected staff of teachers, a good supply of pupils, a central locality, suitable accommodations, and a liberal endowment, such a school ought to prove successful; provided, of course, that by wise legislation it be made the one entrance through which all must pass who begin to teach in High Schools. That there are practical difficulties in the way is not disputed; that they are insuperable perhaps few are prepared to believe.

If Upper Canada College could be *transformed* into such a school—not merely utilized for the purpose—it would have the two-fold advantage of furnishing an acceptable *raison d'être* for the continued existence of that institution, and, on the score of economy, of rendering unnecessary the erection of new buildings. Probably such a transformation was not intended by the Minister of Education in his proposal. At all events, this plan is now laid aside for the recent Regulation—a course of lectures on professional subjects at the Education Department.

This enterprise seems to be waiting, like many others, until "the requisite funds are supplied by the Legislative Assembly." It is to be regretted that fuller information has not been furnished concerning this proposed special session. Much opposition and prejudice might have been prevented, and general confidence gained for the proposal. As it is, we are left mostly to conjecture, and can only pronounce opinion conditionally. I think to be acceptable the scheme should at least meet the following requirements:—

1. A thoroughly efficient staff of lecturers.
2. The professional course to be supplemented by practical work with model classes in certain High School subjects.
3. A thorough test in theory and practice before the granting of diplomas.
4. No direct connection with any university.
5. Such a gradual enforcement of the Regulation as will cause no serious inconvenience to present teachers.

Such an arrangement would doubtless command the confidence of teachers, and soon win its way to general favor.

Whatever plan may be adopted, the training required presupposes academic training and builds upon it. If it be found that this order cannot be observed, the literary and the professional preparation may go hand-in-hand, following the German method, where lectures on pedagogy and didactics are delivered in certain universities, sometimes by professors who have made these subjects an exclusive specialty; in most cases, however, by lecturers on philosophy, who adopt this method of giving variety to their work. In several of the English universities courses of lectures are given by able men on special aspects of the subject, and one or two permanent professorships have been established. In France and Italy also such lectures are given; coming nearer home, we find them at Harvard, Ann Arbor, and other American universities. Nor should this be thought strange, for a university is historically a teacher of teachers, as the old title, "doctor," plainly indicates.

If, therefore, a Model High School cannot be established, and if the special course be found inadequate, we can at least have theoretical pedagogy, or didactics, well taught in our universities. At present they furnish nothing sufficiently definite to meet this requirement, though the necessity for such a provision has been admitted. Probably the only obstacles would be the difficulty of securing suitable men as regular lecturers, and the lack of funds to pay them.

Such a lecturer should himself be an experienced teacher, thoroughly familiar with our school system. He should also have seen and studied with care the best schools of various grades in other lands; be competent clearly to impart a knowledge of the history of education, and show a perfect familiarity with ethics and psychology. This at least would be expected in an ideal lecturer—

one not content with dealing in dry platitudes, dignifying commonplaces, distilling his mediocrity and reproducing it in his students. It is hardly essential that he be imported from abroad to give imaginary *prestige* to the position. It would say very little for the past forty years' educational work in Ontario if it were necessary to entrust the training of our own High School teachers to men who would naturally be guided by English standards; or those who would urge upon us the acceptance of Teutonic ideas, under the impelling motive that all wisdom will surely die with that singularly gifted people. Nor could a lecturer rigidly cast in *any* foreign mould readily adapt himself to the situation. That desirable men could be secured is not improbable. As soon as the *real necessity* for this special talent is apparent, no doubt both *men* and *means* will be forthcoming.

To the collegiate method of training teachers there is the one serious objection, that it would furnish no *practical* instruction, unless each university could make local arrangements to meet this want.

If Toronto University were to establish such a chair, and if all desiring to qualify as high school teachers were compelled to attend lectures there, the other universities would have just ground of complaint. If, however, the Government were also to prescribe in general terms a course in professional work for High School teachers, leaving it optional with the other colleges thus to supply their students also with the requisite instruction, no unfairness would appear. The desire of these colleges to provide for their own men would soon suggest a way to meet the emergency. Then, as now, a healthy emulation would exist in turning out competent candidates for masterships. Some common test could be applied to all, and all receive final recognition by a departmental certificate. Among the advantages of this plan would be: (1) The broadening and popularizing of our university curricula; (2) Comparative inexpensiveness to the country; (3) Rendering unnecessary any sweeping changes in our present system.

The universities ought to be deeply interested in any plan for giving increased efficiency to our High School teachers. The kind of preparation matriculants receive largely determines both the work that must be done for them at college, and their final standing at graduation. Conversely, the graduates sent back to High Schools as teachers either reflect honor or bring discredit on the colleges that sent them. It is to be hoped that this interaction is not being lost sight of by our university senates.

Since we, as a Section, have taken up this important subject, our opinion will be looked for, both on the general question and the several plans proposed. That we shall express our sympathy with the object sought to be attained, I have no doubt. I trust that our suggestions as to the means by which increased efficiency shall be made hereafter to characterize even the youngest teacher in our High Schools may be marked by wisdom and unselfish devotion to our calling.

PRIMARY READING.

The old *a b c* method ought to have disappeared, but it has not. The word, sentence, and phonic method, or these combined, are preducing great improvements, but vastly greater good has come from the use of script at the very outset.

Now, with a good blackboard the teacher can, in a very brief time, teach a class of small children not only to know and call at sight a large number of words and to read intelligently the same words combined into the largest possible number of sentences, but during the same time the children have learned to write the sentences with proper beginning and ending, which includes the ability to spell. If the word-method has been adopted, the reading of no sentence is attempted until every word can be called at sight. Words at first are learned as wholes, and no time is spent in learning the alphabet. It is assumed that the letters are known, and they will be known as fast as used. The best teachers discard imitation in primary reading—the child reading the sentences without having first heard them read; he reads naturally as he talks, and he is delighted with what was formerly blind drudgery.

From association and the similarity between script and Roman letters, the transition from script to Roman is easy. Better finish several First Readers before taking the second. Children need more practice in new combinations of the words known, rather than continued repetition of the same *sentences* till they are memorized and can be read with the books closed. Newspapers are also used for supplementary reading.

Even small children can learn to express their thought in writing, and this practice continued becomes a series of lessons in language, which is far better than *language lessons*, by which real technical grammar is taught to young children, using the terms "object words," "action words," etc., instead of standard terms, which must be learned later. Technical grammar is important, and should be taught to those pupils of more mature years who remain in school. Tracing the forms of letters and words upon blackboards and slates and in writing-books is another excellency of the modern school.—*Report of Committee of New York State Teachers' Association.*

Notes and News.

ONTARIO.

Mr. Richard Lees, who holds a Provincial first-class certificate, has been appointed to the position of Science Master in the Lindsay high school. It is also part of his duty to act as principal of the model school during the time in which candidates are in training. A model school class of twenty has been organized and work commenced.

An accident occurred at the Varna school. Two pupils playing at baseball were running to the same base, and came into collision. The smaller boy, John Morrow, had his arm dislocated.

Emma Cox, a little girl attending Parliament street school, was tripped by a mischievous boy as she was passing him. Her face came in violent contact with the edge of a desk, which inflicted a severe wound in the cheek under the eye, and almost gouged the eye out. A summons will be taken out against the boy.—*Globe.*

The Secretary of the Ontario Teachers' Association has issued a circular inviting local associations (*a*) to send in orders for copies of the Minutes, which are supplied at ten cents with 25% discount on a large order, (*b*) to send subjects for discussion and appoint delegates for next meeting in August, 1884, (*c*) to consider the question—"A Chief Superintendent" *vs.* "A Minister of Education."

MANITOBA.

RESULT OF THE RECENT TEACHERS' EXAMINATION.

The following is the report agreed upon by the Board of Examiners to be submitted to the Protestant section of the Board of Education at its meeting:—

Education Offices, Winnipeg, Man., 10th Sept., 1883.

To the Protestant section of the Board of Education.

Gentlemen,—The Board of Examiners appointed by you to examine candidates for public school certificates in connection with the Protestant schools of this province, beg leave to report as follows:—

At the examination which commenced on Tuesday, August 7th, there were 180 candidates, of whom 18 wrote for 1st, 57 for 2nd, and 105 for third-class certificates. The following is the classification of successful candidates, the names appearing in the order of merit:—

FIRST-CLASS CERTIFICATES.

Grade A.—J. F. A. Stull, Portage la Prairie; Walter Sharpe, Pilot Mound; Noah Hewitt, Winnipeg.

Grade B.—Thomas B. Scott, Morris; Miss E. M. Atwood, Winnipeg; Miss M. A. Mabee, Winnipeg; Victor Latimer, Winnipeg; Edward E. Best, Gladstone; Miss E. Williamson, Sunnyside; Francis J. Bamford, Winnipeg; Miss M. Harcourt, Poplar Point; Miss M. Hargrave, Winnipeg; Sydney Erskine, Winnipeg; Miss Mgt. Inglis, Winnipeg; Miss Emily Kerr, Winnipeg; Frances F. Kerr, Winnipeg; Miss Alice Christie, Winnipeg.

SECOND-CLASS CERTIFICATES.

Grade A.—Sara Lang, Isabel McVettie, John Taylor, W. J. Bodkin, Thos. Young, James McIntyre, W. J. French, J. H. Innis, John R. Steep.

Grade B.—Annie Jaffray, C. H. Newcombe, Ellen Parsons, Wm. Somersall, Jessie McDiarmid, D. McLean, Janet D. Todd, Tilla Zinkan, Joseph Bushby, W. H. Cartmell, F. W. Montgomery, Rebekah Barnes, M. A. McFadden, W. T. Kinney, S. A. Sutherland, Edward Coade, W. Axford, J. Douglas, Joseph Machesnay, Lizzie Scott, D. D. McGinnis, Hugh McCulloch, F. A. Collins, Emily Flummerfelt, Cassie Barnes, Thos. Logan, Geo. Collins, Annie McLeod, Ida Ferguson, Arch. Fowler, Geo. Heslop, (equal), Bella Merritt, Mary Christie, Lizzie Kennedy, Dorothy Currie, Bella Mabee, Miles A. Egerton, Lily Adair, F. Steede, Wm. F. Earle, Louise James.

THIRD-CLASS CERTIFICATES

Awarded on 2nd class examination:—Christina Durno, Theo. Finn, C. Garrett, M. McMillen, M. McPhair, John Young.

Grade A.—W. B. Cumming, Olive M. Gwillini, Edward Livingstone, Janet White, Wm. Babbington, Hugh McCullough, K. G. Gwillini, M. Setter, Lillian Aitchinson, Lizzie Riley, Thomas O. Webster, F. Chapman.

Grade B.—Carrie Wiand, J. Dulmadge, Edgar Pye, Lizzie Nesbitt, George Harris, A. Findlay, J. McDonald, A. Campbell, M. Blythe, L. J. Stacpoole, F. Shultz, John Powers, T. Babington, Maggie Dickie, A. MacLean, Isabel Patterson, Jno. Bryson, J. Casselman, Margaret Robb, M. Babington, John Clinton, John Maclise, D. D. McKay, L. Sparrow, Jennie Gunn, E. P. Wells, Annie Edwards, W. G. Wilson, R. D. Broadfoot, Abbie McKibben, J. Fulsher, Andrew Curtis, Kate Smart, Wm. Eccles, James Butchart, Lizzie Smith, Elizabeth Bray, Jennie Wells, Nellie English, A. J. Plummer, Colin McCurquodale, Lenord Wilson, Jennie Waugh, C. Robinson, A. McLennan, R. Bloomer, F. B. Calvert, M. E. Bradford, M. Vincent, John Freeborn, R. McLennan, Esther Tweed, A. R. Steacy, Carrie Bell, Edward Campbell, A. MacRae, Wm. B. Elkin, Emily Barwick, C. A. Powell, Kate Menzies. Mary E. Kennedy, Edward Rowland, Ursula Smith, Sarah Reid, Jane W. Black, Robt. R. Mills, Isabel Carswell, Mory Gash, Maggie Young.

RECOMMENDED FOR INTERMEDIATE CERTIFICATES.

F. Smith, Francis Parrott, Abbey Gordon, Louise McLean, Allie Edwards, Kate Milne, L. Williscroft, Lizzie Fraser, M. McIntyre.

(Signed) GEO. BRYCE, M.A., LL.B., Secretary.
W. CYPRIAN PINKHAM, Chairman.

GENERAL.

Given a room, a teacher, and fifty pupils; but it is not necessarily a school. All the conditions are there but one, and that one is co-operation. The *Indian School Journal* puts it thus: "If the teacher tries ever so hard to teach, but does not secure the co-operation of the pupil in trying to learn, there is no real school." There may be methods, perfect in theory; order that hears the clock tick, and the pin drop; examinations that answer perfectly every question; and yet there is no school unless between teacher and taught there is a mutual play of love, sympathy, and good will. Who of us, if weighed in the balance, would be found teaching, not a school, but an aggregation of little ones?

"The Swiss Kindergarten," is the title of a new monthly, published by the well-known school director, C. Kuettel, of Luzerne.

The schools of Buffalo have used the same text-books for twenty years. There is a prospect that a change will be made. Too frequent changes are a nuisance and a detriment to the schools, but this is carrying the opposite practice to an extreme.

The new school code of England *permits* the teachers to introduce the "gifts" and the distinctive exercises of the Kindergarten into their schools. It seems, however, that in consequence of the conservatism of inspectors and teachers, little benefit is derived from the permission.

In 1881 a number of citizens of Munich in Bavaria established an asylum for boys, the sons of parents whose circumstances in life render it impossible for them to watch over the children after school hours. The asylum gathers such boys and gives them opportunities for play and useful occupation. The first asylum was opened in 1881 with 50 boys; a second one has lately been organized, and preparations for others are in progress.

THE ISOLATION SYSTEM.—The schools of California are suffering greatly from what may aptly be termed *the isolation system.* Every county forms within itself a little *imperium in imperio*, and in school matters seeks no intercourse with the world without. The local boards "raise" their own teachers and grant their local certificates; they get as completely into old and deeply worn ruts as possible. In short, there is no circulation in our educational waters; it is all stagnation.—*The Pacific S. J.*

The ladies seem to be gaining on all sides. At the recent London University examinations, out of 970 candidates who entered, 126 were ladies; of these, no fewer than 91, or 72 per cent., were successful, while of the male candidates, 449, or 53 per cent., were successful. Even slow Spain comes to the front on this question, for, by a recent law, of July 6, the Spanish Government decrees that women teachers shall hereafter receive the same salary as men. From India, a Madras paper announces that a native lady, Mrs. Ethirajulu, has been granted permission by Mr. Nayadu, B. A., a sub-magistrate, to practise in his court as a private pedlar; at Calcutta a native lady has been enrolled as a pupil in the primary class in the Medical College Hospital.

The *Burlington Hawkeye's* jester does not believe in babies talking like old men, and, in spite of the "new idea," thus defends himself: "From the day on which they are six years old they must, under the school system of the States, begin to study, and sit up straight, and behave properly, and speak correctly, and from that time until the grave hides them they live and speak and act—verbally speaking, they be, and do, and suffer—under social and educational surveillance. And I claim that at least six years of the life of a man or woman should be free; free as the air; free to talk as the brook runs, with untrammelled musical prattle and babble.....You see, we haven't a very broad experience in training children; we have only one chick to cluck over and scratch for, but we're bound he shan't go to school until he's through being a baby, and we know, school-mistress, that he's the happiest baby that ever mangled grammar."

The School Congress to be held in Geneva, Switzerland, in August, 1884, will discuss the following questions: 1. What is the mission of the primary school with reference to fitting the scholar for his future profession? Is it, in particular, possible to introduce hand-work into the courses of study? In case of an affirmative answer, what should be the plan for this new instruction, and by whom should it be given? 2. Is a reform in French orthography desirable in the manner and to the extent proposed by Amb.-Firmin Didot? If so, what are the most proper means to accomplish it? Should the Teachers' Society of French Switzerland institute a movement in favor of a simplification of orthography by interesting other societies of similar aims in the work? The first question is at present the object of special investigation by the governments of Neufchatel and Geneva. The second subject, though not new, will especially interest teachers of secondary schools.

The school system of California recognized the necessity of trained teachers for her schools, and, as early as 1862, the Legislature appropriated 3,000 for a normal school at San Francisco. The successive principals have been Ahira Holmes, Geo. W. Minns, H. P. Caalton, W. T. Luckey, and Charles H. Allen, who has held the office since 1873. In 1872 the State Board of Education erected a fine normal school building at San Jose, at a cost of $250,000, and the school was removed to that city, where it still remains in a very prosperous condition, with 600 pupils in the normal and 103 in the training department. The Board of Instruction consists of nineteen members, who represent in their birthplaces and education as many of the Eastern Central States. J. H. Braley is the efficient vice-principal; Miss Helen S. Wright, a woman of large experience and great ability, is preceptress; and Prof. Henry B. Norton is one of the most learned and successful instructors.

Archdeacon Pinkham has resigned his position as Chief Superintendent of Education in Manitoba; Mr. Somerset, late Inspector of Schools, succeeds him; Mr. Fawcett, of the High School, becomes Inspector of the Winnipeg schools. We intend to give a more particular account in a future issue.

We hope our friends will excuse the late appearance of the Sept. number, and any imperfections of the present one, when we say that we are just removing to our new premises, where we shall have greater facilities for supplying the wants of our numerous patrons.

DEATH OF MR. McNIVEN.

We stop the press to make the painful announcement that Mr. J. McNiven, Mathematical Master of the Ottawa Collegiate Institute, departed this life on Saturday, September 29th, after a short attack of typhoid. The teaching profession has lost in Mr. McNiven an able and distinguished member. The deceased was a born teacher, possessed of great skill and unbounded energy. He was one of the most promising young men in the ranks of those who have made teaching their life-work. He held a first-class provincial certificate, had completed some part of his university course, and had apparently a brilliant future awaiting him. In the High Schools at Caledonia and Walkerton, and in the Ottawa Institute—everywhere, he achieved success of the highest order by his great enthusiasm and indomitable spirit. His health and physical stamina were uninjured by over-work; he fills an early grave, deeply amented by wide circles of sorrowing pupils and regretted by many friends.

ONTARIO TEACHERS' ASSOCIATION.

(Concluded from last month.)

The second day's Convention of the Ontario Teachers' Association was called to order at two o'clock on Wednesday afternoon, Mr. MacMurchy, the President, in the chair. The meeting was opened with devotional exercises. After the reading of the minutes the Auditors' report, which was presented, stated that the Treasurer's report was carefully and correctly kept. The report was adopted.

CHANGE IN THE SCHOOL LAW.

Mr. John E. Bryant, M.A., Galt, read a paper on "The advisability of a change in the administration of the school law by the appointment of a Chief Superintendent of Education and a Council of Public Instruction in lieu of a Minister of Education." Mr. Bryant said:—If anyone thinks that our educational affairs can be managed by a system free from objection, I venture to submit that he has not fully considered the question. That the present system of administration is very faulty I have not the slightest doubt: that it has some advantages which any substitute for it would lack, I do not doubt either; but the plan of administration which I shall propose for your consideration before I finish this paper, although not a perfect solution of the educational problem, will, I hope, be admitted by you to be so much less objectionable as to warrant its adoption, in principle at least, if not in all its details. From the autumn of 1844 to the beginning of 1876 at the head of the school system of the Province was an executive officer, styled the "Chief Superintendent of Education." It is not saying too much to say that Dr. Ryerson founded the system which he administered. Just as the fabric of its constitution was designed by one discerning mind, though reared, it is true, by others, added to and strengthened, adapted to the growing and changing needs of the country, and made more efficient by the skill and wisdom of him who for so many years was spared to do this honorable and beneficent work. Difficulties and opposition of every sort, arising from enmity, jealousy, prejudice, sectarianism, and party rancour, as well as just criticism, were in his way almost at every step and in every hour of his course; but they were always encountered with courage, and were generally overcome. But there was always a greater danger to be feared than mere criticism or attack. Should the Government be engrossed with other affairs, and especially were it indifferent or hostile, a bill might be passed through Parliament, prepared even with the best intentions, but for want of that knowledge on the part of its promoters which only a practical experience in the working of the school system and a profound study of the principles of school legislation can give, might contain provisions or omissions which would either impair the efficiency of the system, or be subversive altogether. This might be done, and the Chief Superintendent be impotent to resist, since a Government might, by listening to the would-be educational reformer in the Legislature rather than to the executive head of the system out of it, thus grasp a majority necessary to their power. I do not believe that any Government or any Legislature would sanction a bill that would be ruinous to popular education. In advocating the dissociating the administration of the Education Department from the regular Governmental administration of Provincial affairs, it is well to recognize the liability of unwise and ill-advised interference on the part of the Legislature, the Education Department being powerless to resist.

THE LEGISLATURE IS SUPREME,

and must necessarily remain so. But whether the Legislature is competent to improve or change the school law without the guidance of a body whose experience and special knowledge can give the right to advise must be doubted. Dr. Ryerson, sensible of this weakness of his position, and not having learned by experience what other evil he was invoking, by his counsel in 1869 and 1872, and on until he succeeded in having his counsel taken, urged upon the Local Government to assume the control of the department and to give to the Superintendent of Education a seat in the House and a place in the Cabinet. This was done in February, 1876. That the evils got rid of were more than counterbalanced by those which came in with the change I think we shall see further on. The Council of Public Instruction under the old system was composed of gentlemen of education and intelligence, who were representative in the sense of being men of prominence and influence in the different religious bodies to which they belonged. The Upper Canada Council of Public Instruction, representing every important religious sect, when it sanctioned methods of religious instruction in Public Schools, and authorized text-books and programmes of studies, by its very constitution guaranteed to the religious community the orthodoxy of what was done. But in course of time it came to be seen that the body was in no educational sense a representative one. They could endure the ordinances of the Chief Superintendent with perfect readiness, because as to all interests which they were appointed to protect the Chief Superintendent was as liberal and impartial as they collectively could wish. In 1873 an infusion of younger blood was given to the now quiescent Council. Then, in response to popular discussion and demand, the constitution was greatly changed. Then the Minister was appointed. It may well be doubted if anyone in the Province could be found more worthy of a place in the Educational Bureau than the gentleman selected. A scholar holding the highest degree of our University, distinguished in his own profession and in his political career for ability and success, and of unblemished personal character, he had every qualification which a party politician could have. He entered upon his office with a zeal and energy which boded well for his future success, and which he has maintained unflaggingly until the prostration which over-work inevitably brings has forced him to retire from the duties of his office. I cannot for one moment make myself a party to any criticism of his administration which shall accuse him of want of earnestness or of non-appreciation of the magnitude and responsibility of his trust, or of intentional unfairness, or of idle negligence, or even of conscious partisan bias. I am very far from approving of all that he has done or of the way in which he has done it, and while I cannot but admit that some of the faults of his administration are due to the man, and will also admit that it is possible another Minister might have made fewer errors and provoked less criticism, yet my position is to maintain that the worst faults of the administration are due to the system and not to the Minister. Possessing no special training for his position and no intimacy with its concerns, with no outfit but those general qualifications named above, he had to exercise all the executive authority which during thirty years' service the energetic head of the department had become possessed of, and all the advisory and legislative powers which the experience of the past ten years had shown to be sufficient to utilize the judgment and wisdom of fifteen or eighteen gentlemen, chosen for their experience and scholarship, and their representative educational position. Is it any wonder that he found himself not equal to this position? No person could have been. A complex law, a large departmental business, and the administration of interests whose details none but experienced educationists, inspectors, trustees, and teachers could possibly be familiar with—all these he was to supervise, to regulate,

and to give efficiency to. As a lawyer, he could comprehend and interpret the laws relating to public instruction and give his decisions thereon, and which unfortunately has been a large share of his duty.

ADVANTAGES OF THE PRESENT SYSTEM.

As a business man he could direct the workings of the departmental officers; as a Minister, backed by a majority in the Legislature, he could command for his administration an adequate monetary support and also an easy passage of any bill necessary to improve or extend the system over which he presided. It was his position in the Legislature which made him immensely superior in power and effectiveness to the late superintendent. But the Public Schools, with their complex relationship to trustee boards, township and county municipalities, and Provincial authorities, their text-books and courses of instruction, their inspection and the certification of their teachers; and the High Schools, with their, if possible, still more complicated support, courses of instruction, and connection with the local municipalities and the Province; in other words, all the mechanism of the system, outside of his own office, was something beyond his knowledge, and—I say it without disparagement—beyond his attainment. The Committee is a perfectly legal body appointed by virtue of a statute, and as long as it is employed in examining candidates it is exercising legitimate functions. Beyond this it cannot legitimately go, but by the Order in Council it is made a Board of Reference or Consultation, to which the Minister may refer all matters of an educational nature; he does not, however, by this order agree to bind himself, nor in practice does it seem that he intends to bind himself, to any of its findings. It is this use to which the Committee is put, not contemplated by the statute that authorizes its existence, which has been objected to all along, and which raised such a storm of opposition against the Committee of 1876. And it is this which we contend is illegal, unfair to the great body of education in the Province, and derogatory to the dignity of the Committee itself. It covers up an arbitrary exercise of authority on the part of one who, by reason of his position, cannot be acquainted with the details of the system which he manipulates, with an understood endorsation, which may or may not have been given, of a body of educational experts. If this Committee were to have any real consultative authority, it should have the power of coming to final decisions upon all matters referred to it, and should be responsible, in some way or other, for these decisions to the public. It should not be subjected to the indignity of giving the weight of its wisdom and its experience to a decision only to see its advice rejected. And again, if responsible to the public, the public should have some voice in its appointment, and should have some certainty of knowing whether these mentors of the Minister are, by professional standing, scholarship, character, and experience in educational administration the best men that could be selected.

IS THE PRESENT SYSTEM BEST?

After careful consideration of this subject, I cannot believe that this system of administration of the school law by a party chief is the best system that can be found. It certainly possesses two advantages which no other system can possess. It ensures a fair financial support of new educational schemes, without the humiliation of the head of the Education Department coming to the Government to ask for it; and it ensures the ready passing through Parliament of any reasonable educational bill. But it necessitates every few years the placing at the head of the educational system—a system so complex that none but a trained expert assisted by trained advisers can fully understand it—one whose political eminence precludes the possibility of his being such an educational expert. It necessitates as a matter of course, and without reference to their intrinsic value, the support of the acts of this gentleman by his political party friends and the public journals which favor the Administration to which he belongs, as also the hostile criticism, and oftentimes downright condemnation, of these same acts by his political opponents. It necessitates the erection and continuance of a perfectly irresponsible and arbitrary authority over our educational system, or else the bringing of every petty regulation in regard to the internal economy of the school system to the arbitrament of a direct party vote in the Legislature. It necessitates the Minister, in making a choice of suitable occupants of positions of emolument within his gift—positions requiring professional reputation, experience, and credit in their incumbents—to be submitted to all sorts of party wire-pulling and intrigue; and it inflicts upon successful candidates for such positions, who, it may be, are perfectly guiltless of any such unworthy canvassing, the stigma of party servility. It tends to create in the public mind a suspicion that in the authorization of certain text-books rather than others the Minister is guided by the political faith and allegiance of the authors and publishers, rather than by the suitability of the books authorized. It tends to create too the suspicion that political influence is a weightier argument to convince the Minister's judgment than principle or reasonableness. It gives to party journals an opportunity to magnify every little act of Ministerial common sense and judgment into a matter of supreme and unequalled beneficence; or, on the other hand, to distort every little departmental delinquency into an enormous offence against liberty, morality, economy, or what not. It makes of our educational system, which it should be the highest care of our wisest statesmen of *all* political parties to cherish and protect, a tilting-post, to be thrust at by any party writer or speaker. By the inevitable lack on the part of the Minister of practical acquaintance with the working of the laws and regulations which he administers in the school-room, the trustee board, the rural section, and the local municipality, this system which we are criticising makes him dependent upon the advice of others; and this being obtained from whatever quarter he chooses, it may or may not be disinterested; it may or may not be prudent and well-considered, and so is most likely to be inharmonious with other acts and regulations previously authorized, and thus creates dissatisfaction and disgust.

THE SCHEME SUGGESTED.

Let me now briefly detail to you the scheme, which, while it is not free from objections, still will be far less objectionable than the system under which we are working at present. I do not take much credit for originality in it. It is the system which was legislated out of existence in February, 1876, with some essential differences:—*A Chief Superintendent to be appointed* whose powers shall be very much the same as those of the late Superintendent, after the Act of 1874, who shall be essentially an executive officer to administer the local system in accordance with the Acts of the Legislature and the decisions of the Council of Public Instruction. *A Council of Public Instruction to be appointed*, which shall consist of:—1. The Chief Superintendent. 2. The Provincial Secretary for the time being. 3. One High School Inspector, who shall retire annually, to be succeeded by the others in rotation. 4. Two representatives of the High School Masters, retiring biennially, one each year. 5. Two representatives of the Public School Inspectors, retiring biennially, one each year. 6. Two representatives of the teaching profession in general, retiring in the same way, to be chosen by the Managing Committees of the County Teachers' Associations, each committee to give but one vote. 7. The President of the Provincial Teachers' Association for the time being. 8. A representative of the University of Toronto, and of each University of the Province, as well as of each College affiliated to the University of Toronto. 9 Six appointees of the Lieutenant-Governor in Council, retiring triennially, two each year. The disqualification of teachers and inspectors not to be continued; and the members of the Council residing outside of Toronto to receive their travelling expenses incurred in attending meetings. The Council to have full and final authority, under the Act, over all matters relating to text-books, programmes of study, hours and days of instruction, discipline, certification of teachers, examinations for promotion and otherwise, and all other matters relating to the internal economy of Public and High Schools; also, under the Act, to make regulations for the distribution of the High School fund; also, to have charge of, and make regulation for, the government and discipline and other internal economy of the Normal and Model Schools, and to have the appointment of the masters and teachers thereof; also, to have the right of nominating to the Lieutenant-Governor, as vacancies may occur, suitable persons to act as Inspectors of Seperate and High Schools; also, to be empowered to report to the Lieutenant-Governor, from time to time, full information in respect to the status and working of the educational system of the Province, and to recommend to him any improvement of the school law which in the wisdom of the Council may seem necessary.

A vote of thanks to Mr. Bryant for his paper was passed.

DISCUSSION ON THE PAPER.

Mr. Reid, of Mount Forest, said it was the policy and not the men against which criticism should be directed. He thought Public Schools should be more largely represented than suggested in the paper. That measures should be passed through the Legislature with readiness, and that the educational system should have

sufficient monetary support, were reasons, in his opinion, why the present system should remain unchanged. He thought, however, the Minister of Education should be advised by a committee. The Opposition could not then criticise the Minister, as he would only carry out the suggestions of a competent committee.

Mr. Smith, Ancaster, said he did not think it prudent to rush in and discuss the matter in a hurry. There were no crying evils to be removed now, and he thought before they made a great many recommendations in the matter they should defer consideration of it until the next annual convention.

Mr. J. H. Smith moved, seconded by Mr. J. L. Hughes, that the discussion of this association on the subject of Minister of Education v. Chief Superintendent be reserved until our next annual meeting, and that in the meantime a copy of Mr. Bryant's recommendations be sent to each county and city association with a request that instruction be given to their delegates regarding their action in the matter.

Mr. Carlyle, of Woodstock, said if they discussed the matter now they would have a better knowledge of it next year.

Mr. Taylor, Ottawa, said they could appoint the committee on a different basis, but have its purposes the same. The present system had superseded a system which was found impracticable.

Mr. McKinnon said there was an element of weakness as well as of strength in the administration of educational affairs. Measures, not men, would be more likely to govern our school affairs under a Chief Superintendent. It was hard for a man to be a politician and an active educationalist. A Superintendent was not apt to be an active politician, and therefore he would be well up in his work.

Mr. Powell thought the fact that the former system was found inadequate and had to be condemned was sufficient reason why it should not be introduced again.

Mr. Strang said that any doubts he had in the matter had been removed by Mr. Bryant's paper. It was all very well for a paper to ask them to produce their objections. It was a delicate matter for them to state their objections. He felt sure that there were two dozen men in the room who could state their objections. He stated some objections, among which was one case in which an appointment was made when the appointee had not the necessary qualifications.

Mr. Carlyle thought they were deeply indebted to the Minister of Education in resisting the influence that had been mentioned. The question was how he had resisted at all, and would another resist as much as he had? He knew of a case in which a certificate had been granted, and of which the Inspector knew nothing. The country at present was divided into two—the one half to maintain and uphold the present system, and the other half to decry it. From what source had suggestions come for changes? It was a difficulty that gave rise to much friction. In Mr. Bryant's scheme there was no provision made for public representation.

Mr. Bryant said according to his scheme the Superintendent was simply an executive officer in carrying out the suggestions made. He thought no legislation in Parliament as to matters of education should take place without first coming before the Council of Instruction.

It was moved in amendment by Mr. Strang, seconded by Mr. Goggin, that the motion be amended by inserting the following words:—"While expressing a general approval of the changes proposed in his paper, yet deeming it wise to have the question more fully discussed before pronouncing absolutely on it." The motion was carried.

LICENSING OF TEACHERS.

Mr. John Dearness, London, read a paper on the "Licensing of Seachers." He believed the Model student did not gain the grasp of methods which would enable him to reproduce them according to his own individuality with adaptation to varying circumstances. He thought that while the County Model School was a step in the right direction it fell short in effecting anything of a lasting benefit owing to the shortness of the session. A beneficent reform would be to empower county boards to conduct examinations for admittance to their respective Model Schools. It was felt a mischievous evil of the bill of 1871 that teachers after taking a third-class certificate, and being allowed, we might say compelled, to teach a time, were thrown out at the end of three years if they could not then pass the second-class examination. This evil was partly remedied by the permission allowed candidates to continue their studies uninterrupted until the completion of literary work required for the life certificate. Now, unfortunately, an ill-advised regulation requiring a teacher to hold a non-professional third for a year before he can write for his non-professional second launches us back nearly where we were before. If we cannot get back to that excellent plan of each county's board being governed by the known wants of its own jurisdiction in the matter of certifying teachers with the privilege of supplementing a scarcity by endorsation as before, let us in common justice to our young teachers make a uniform standard of examination for all those receiving unlimited license to teach anywhere in the Province.

The paper occupied nearly an hour in reading, and the above is only a synopsis of it. At the conclusion a vote of thanks was tendered Mr. Dearness for his paper.

At eight o'clock the Convention resumed business.

Dr. Oldright, M.A., read an exceedingly valuable paper on School Hygiene, which we purpose to publish among our Special Articles at an early date.

Drs. Yeomans and Canniff also spoke on the subject dealt with by Dr. Oldright. A vote of thanks was tendered Dr. Oldright for his paper, and to Drs. Yeomans and Canniff for their remarks on School Hygiene.

An able address by G. W. Ross, M.P., on school matters was listened to with interest by the members at the evening session. The Convention then adjourned.

The Convention was called to order in the afternoon at two o'clock by Mr. MacMurchy, the president. The proceedings were opened with devotional exercises by Mr. McQueen.

ELECTION OF OFFICERS.

After the reading of the minutes, the report of the Executive Committee recommended the following gentlemen for officers of the association for the ensuing year:—President, G. W. Ross, M. P.; Recording Secretary, R. W. Doan; Corresponding Secretary, A. P. Knight; Treasurer, W. H. Hendry.

Mr. Bryant said that he had only one objection to the gentleman who was nominated for president of the association. It was that he was a politician rather than an educator.

Mr. McIntosh (Hastings) said he was as strongly opposed as anyone to the introduction of party politics in the association. Had he thought it was a question of politics he would have opposed Mr. Ross' election as strongly as anyone. The election of Mr. Ross would not injure the association or bring discredit on it.

Mr. Reid nominated Mr. J. L. Hughes as president. He thought Mr. Ross' parliamentary duties would stand in the way of his paying that attention necessary to the duties devolving on him as president.

Mr. Hughes stated that he did not wish to oppose Mr. Ross as a candidate for the office. He did not support Mr. Ross as a politician, as he was not of the same politics as Mr. Ross. He thought it was unfair for any of the members to sneer at any gentleman who was nominated for office, merely through some petty spite. He would like to see all personal matters kept out of the association. The association was not growing as largely as it might, and they should take every means of binding themselves together so that they might with the opinions of the society be felt outside to a greater extent. He had great pleasure in resigning in favor of Mr. Ross.

Mr. Carson said the nomination should be made from the Public School Inspectors' Section, and there were gentlemen in the section who were more entitled to the position of president than Mr. Ross. He did not wish to be in a losing battle, and he would withdraw.

Mr Strang said politics were not brought up in the committee in connection with the nomination for president. They considered Mr. Ross merely as an educationist, and the nomination was purely a question of merit. The Executive Committee's report was adopted.

Mr. J. L. Hughes moved a vote of thanks to the Shorthand Writers' Association for the invitation to attend the conversazione.

AUTHORIZATION OF SCHOOL READERS.

Mr. F. C. Powell, secretary of the Public School Section, moved, seconded by Mr. Duncan, that the Provincial Teachers' Association disapprove of the authorization of more than one series of school readers. Carried unanimously. Mr. Powell also presented the following resolution to the Convention:—"That in the opinion of the Public School section the Education Department should take measures for enforcing the proper ventilation of school buildings." The motion was carried.

MORAL EDUCATION.

Following is the report of the committee on Mr. Millar's address on "Moral Education." Your committee beg leave to report as follows :—

1. That in the opinion of your committee the teacher as representing the parent is responsible for the moral as well as the intellectual training of his pupils while under his charge. 2. That all systematic moral training in the schools of Ontario should be based upon the Christian religion as set forth in the Bible. 3. That the reading of selected portions of Scripture as a part of the regular daily exercises in all our schools would be a material aid to teachers in the discharge of their duties in regard to such moral training. 4. That we reaffirm the opinion of this association expressed last year, to the effect "that anyone who cannot reverently, humbly, and lovingly read the Work of God is not fit to be a teacher." 5. That the Education Department be requested to secure the preparation of readings for the schools under its charge. 6. That the use of such selections be made obligatory in all schools, unless the Board of Trustees in towns and cities, or the annual school meeting in rural sections, decide to the contrary. 7. That in the opinion of this committee more might be done by the ministers of the Gospel of the various denominations in the way of awakening public interest in this question, especially amongst the members of their own congregations. Much good would also result from frequent informal visitation of schools by clergymen.

The report was adopted clause by clause. After the first four clauses were adopted Mr. Clark moved in amendment to the fifth clause, "That the teachers be left free to choose what portion of the Scriptures they shall read." The amendment was lost and the clause carried.

An amendment by Mr. J. L. Hughes that the sixth clause of the report be expunged, thereby leaving the law on the matter as it stands at present, was carried. An amendment by Mr. Reazin that the seventh clause be left out of the report was carried. The report was adopted as amended.

EXAMINATIONS AND EXAMINERS.

Mr. F. C. Powell, of Kincardine, read a paper on "Examinations and Examiners."

A vote of thanks was tendered to Mr. Powell for his paper. A vote of thanks to the press also was passed, for the full reports of the proceedings of the Convention printed, after which the Convention adjourned by singing the National Anthem.

After the adjournment a number of the members of the association visited the Grange, by invitation, where they were received by Prof. Goldwin Smith.

The reports of the High School Section, the Public School Section, and the Inspectors' Section are held over for want of space. The able paper by Principal McHenry, of Cobourg, on the Professional Training of High School Teachers will appear among our Special Articles in a future issue.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

CARLETON.—A meeting of the County Carleton Teachers' Association was held in the school-house at Old Stittsville on the 13th and 14th of September. About forty members were present on the occasion.

The Vice-President being absent, Mr. Smirle, the newly appointed inspector, was requested to preside. The preliminary business of the meeting being disposed of, Mr. C. W. Whyte proceeded to illustrate and fully describe his method of teaching the "Railroads of Canada" to a Third, Fourth, or Fifth class. He strongly recommended the teacher to sketch roughly on the blackboard the railway system to be taught, and then by a classification of his own proceeded to show how the subject could be mastered in a few lessons. Considerable discussion followed, in the course of which the question was raised whether the subject of railways should be gone into so minutely in a Public School course. The members, however, were unanimous in the opinion that Mr. Whyte had succeeded in simplifying this somewhat difficult and uninteresting study.

The subject of "Geographical Pronunciation" was next taken up. Mr. McKercher introduced the discussion by a carefully prepared paper. His illustrations were numerous and well chosen. The weight of opinion, however, seemed to be in favor of pronouncing, in all doubtful cases, at least, according to the rules of English orthography. It was shown very clearly that any attempt at the pronunciation of foreign words according to the rules of the language to which they belong must necessarily be imperfect, and in the end lead to confusion. A hearty vote of thanks was tendered Mr. McKercher for the able and learned manner in which he treated the subject.

A discussion arose on the various sets of "Readers" now before the public. After a careful examination of the specimen copies in the hands of the association, it was moved by James McElroy and seconded by Hugh McKercher, and unanimously carried, "That in the opinion of this association, 'Gage's Canadian Readers' are best adapted for use in our Public Schools, and that in order to avoid confusion, we hereby agree to recommend them to srustees for use throughout the various schools of the country."

Mr. D. B. Sawyer and Mr. A. Stewart, whose names were down for penmanship and arithmetic respectively, having failed to put in either an appearance or an apology, caused some inconvenience ; the time, however, was profitably taken up in the discussion of practical questions relating to the work of the school-room.

The officers elect for the ensuing year are: President, A. Smirle, I. P. S.; Vice-President, Mr. Keenan ; Sec.-Treasurer, H. S. Moffatt ; Man. Com., J. McElroy, J. H. Moffatt, H. McKercher, and the Misses Richardson and Steadman.

REVIEWS.

THE RATIONAL METHOD OF TEACHING READING, by Thomas Packer, Kingston. 54 pp. We hope that this thoughtful little book will find its way into the hands of every primary teacher in the Dominion. It is an elaboration and practical application of the principles in Prof. Meiklejohn's *Problem*, but is written in a thoroughly independent tone, and will give any young teacher a good grasp of the excellent method of economising time with younger classes. Whether teachers adopt Mr. Packer's machine or not we sincerely hope they will adopt his principles and methods. Incidentally, and apparently quite unconsciously, the author gives on pp. 8 and 9 the most crushing evidence against the Royal Primer lately authorized in this province. We hope all teachers and trustees will see Mr. Packer's little book before they adopt "these outrageous primers," and thus inflict "tortures" on "thousands of little innocents while 'Learning to Read.'" Price 10 cents.

DEVELOPMENT LESSONS FOR TEACHERS. *New York: A. Lovell & Co.*, July, 1883. This is a *live* little book of 300 pages by two practical educationists, Esmond V. De Graff, superintendent of schools, Paterson, N.J., and Margaret K. Smith. It contains typical lessons fully elaborated so as to give a clear idea of how lessons on the Senses, Size, Form, Place, Plants may be conducted. Each lesson is classified, 1. Object of the Lesson. 2. Point. 3. Materials. 4. Matter. 5. Method. The method is fully expanded, and explicit directions are given to assist the teacher. We believe that every young teacher will find the book a real friend, and we feel sure that our associations would be greatly enlivened if a few such lessons were given at every meeting instead of elephantisic papers on abstract subjects. The short compends on the Science and Art of Teaching, School Discipline, and an exposition of Quincy School Work complete the book. From some points of view the book is open to criticism, but after all it is fresh, vigorous, and thoroughly practical. Price, by mail, $1.50.

DIE ANNA LISE. A German play by Hermann Hersch ; with an interlinear translation and directions for learning to read German by Prof. Charles F. Kroch. Price $1, text alone only 40 cents. *D. Appleton & Co., New York.*

This book is intended for students that have read Kroch's First German Reader, or a part of Adler's German Reader. In fact it may be put into the hands of any pupil who has fairly mastered the verbs and declensions. The hero of the play is Leopold I., Prince of Anhalt-Dessau, a distinguished general under Frederick the Great. Prof. Kroch has produced an admirable volume. It contains an explanation of the arrangement of words in German sentences, a chapter on the study of words, vocabularies and notes to each act, an interlinear translation, and an excellent chapter on German "Expletives," *e. g.*, doch, schon, Jaemineal, &c. With the judicious aids given by the editor, we venture to say that even the tyro in German will read this beautiful play with but little effort and with absorbing interest. We cannot see why such an interesting play cannot be prescribed for the intermediate examination. At all events we heartily recommend it to every teacher and student of German, and are quite certain that students will read this play—as they read Robinson Crusoe—for the sake of the pleasure it affords, and in the exercise of a delightful recreation, will be the better prepared for any examination they may have to undergo.

EXAMINATION PRIMER SERIES.

GAGE'S MAP GEOGRAPHY PRIMER.

FOR STUDENTS PREPARING FOR ADMISSION TO HIGH SCHOOLS.

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Map of Geographical Terms

Has been inserted illustrative of ordinary geographical terms in use.

Map of the Dominion of Canada.

It is the only book published in Canada that contains an accurate Map of the Dominion, showing in one view the entire British possessions in North America, with the new provinces outlined.

Map of Ontario.

It contains a new Map of Ontario, showing the boundary as settled by the arbitrators.

Manitoba and North-West Territories.

The only work that gives a map of these important provinces of the Dominion. The new districts created during 1882 are clearly marked.

Railway Map,

Giving a full outline of all the Railways in Ontario, up to the present date. This is the only School Book published which contains this important and useful feature.

The arrangement

Is admirable, and is the work of practical teachers, viz.: Mr. Samuel Hughes, First English Master, Toronto Collegiate Institute, and Mr. J. E. Denis, Head Master of Woodstock Model School. The requirements of the pupils going up for admission to High Schools and Intermediate Examination have been carefully kept in view. We are confident that the book will please pupil and teacher alike.

Price. The price will be about one-third that of the text-books heretofore used although giving fourteen beautifully printed maps.

Object. While the object of this book is not to supersede entirely the text-books ordinarly used, yet it is believed this little Primer will prove invaluable to all pupils who wish quickly to prepare for examination.

Size. The size is convenient.

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Has been inserted, giving the pronunciation of difficult names.

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FOR PROMOTION, ENTRANCE, AND INTERMEDIATE EXAMINATIONS.

WHAT LEADING EDUCATIONISTS SAY:

Much thought of.

The "Geography Primer" is very much thought of.

H. S. McLean, Principal Public Schools, Lucknow.

I have derived immense advantages from the use.

I have derived immense advantages from the use of your "Geography" in the preparation of my class-work, and confidently recommend it to teachers and students.

W. S. Hodgins, Prin., Model School, Stratford.

Will be welcomed by teachers and by candidates.

It is admirably adapted to the purposes intended, and will be welcomed by teachers, and by candidates for examination, of all grades in our public and high schools.

Geo. Dowler, Head Master, Public School, Brighton Village.

Admirably adapted.

I think the "Geography Primer" admirably adapted for the purpose it was prepared. I had only to examine carefully the geography on Ontario to be satisfied as to its value, and give it a place in our school.

Richard R. Hopkins, Principal, Harriston Public School.

Just the thing.

It is just the thing that teachers have long been waiting for. Its arrangement, comprehensiveness, price, size, are highly satisfactory. I am glad such a book has been published, and will further its sale as much as is in my power.

Will. A. Hoath, Prin., Albert Street School, Oshawa.

Purpose using it as a hand-book.

Have examined your elementary "Geography," and consider it a valuable help to pupils preparing for high school entrance examination. We purpose using it as a hand-book in that division of our school.

S. B. Sinclair, Head Master P. S., Ridgetown, Ont.

Up to the times. Pupils prefer it in preparing their lessons.

"Gage's Map Geography Primer" is up to the times. Its neatness, accuracy, and abundance of information in tabular form, cannot but make it very valuable to the student. It is the cheapest of geographies, and thoroughly Canadian, giving prominence to the Dominion. Pupils prefer it in preparing their lessons.

R. W. Murray, Principal Model School, Picton.

It is geography "in a nut-shell."

I consider "Gage's Map Geography Primer" an admirable little work, and one well adapted to the wants of those preparing for examination. The tabular form observed throughout the whole work makes it very convenient as a book of reference. Its railway map and map of the Dominion add much to its usefulness. In short, it is geography "in a nut-shell."

Robert W. Bright, Prin. Public Schools, Drayton.

Superior merit to any now in use.

"Gage's Map Geography Primer" is of much superior merit to any now in use in our schools. Its arrangement is *par excellence*. The absence of much redundant matter will be hailed with delight by both teachers and scholars. It is *simmered* down so as to be of practical utility. It will relieve the teachers of much hard labor, and it will shorten the students' hours of study. The railway systems of Ontario, with a map thereof, form a very important and useful feature in this work. I heartily recommend its use in our schools.

David F. Ritchie, Prin. P. S., Southampton.

Useful to students "coaching" up for examinations, and teachers requiring notes for daily recitations.

We are very much pleased with your little "Map Geography," because it puts in such a clear manner such a large amount of recent and valuable information in such a small space. The maps are as clear and full as could be expected in a work of such a nature, and those of the dominion bring out the recent changes quite clearly. The information about the Presidential election in the United States, the railway centres of Ontario, the products and industries of the world, &c., &c., is clear, minute, and up to date. The summary of definitions and the tables of exports, capitals, physical features, &c., are well adapted for catching the eye and impressing the memory. In all, "Gage's Map Geography" is a *vade mecum*, equally useful to students "coaching" up for examinations and teachers requiring notes for daily recitations.

(Signed) J. A. Clarke, M.A., B.Sc., H.M., High School,
Jas. McCreary, H.M. Public School, Smith's Falls.

An excellent work.

I have carefully examined your "Map Geography," and believe that it is an excellent work both for teachers' and pupils' use.

Henry Gray, Head Master, Model School, Milton.

I very highly recommend this little book to my pupils.

I am exceedingly well pleased with it. A few days ago I very highly recommended his little book to my pupils, and to-day about a dozen primers are used by them.

Geo. McKee, Prin., Public School, Orillia.

Great help to many hard-worked teachers.

"Gage's Map Geography" contains a vast amount of information in small space and convenient form, and will doubtless prove a great help to many hard-worked teachers in preparing classes for the examinations which form so marked a feature of our school system.

Jas. Bowerman, Head Master, Napanee Model School.

Just the work we need in our public schools.

I consider it just the work we need in public schools, and feel assured teachers will regard it as an admirable little book. Placed in the hands of the pupil, your "Geography Primer" becomes his note book, thereby saving him the loss of much valuable time.

J. W. Narroway, Head Master, Central School, Belleville.

Once introduced a vast amount of superfluous labor will be saved.

"Gage's Geography Primer" is exactly what teachers and pupils have long needed. Once introduced, a vast amount of superfluous labor will be saved. The systematical arrangement is excellent; the railway table alone being worth much more than the price of the book.

Alex. Petrie, Prin. Pub. School, Elora.

Fill a long-felt want in our public schools.

I consider it an admirable work, and well adapted to fill a long-felt want in our public schools. The arrangement in tabular form of the countries, their products, exports and imports, the well-executed maps, particularly those of the Dominion, containing, as they do, the latest divisions of our Great Northwest, add very much to its excellence. I can cheerfully recommend it to teachers generally.

S. A. Gardner, Head Master, Pinnacle St. School, Belleville.

It is Canadian.

It is a neat little book, the arrangement being very complete, and in tabular form, thus being more easily learned by the pupil. It is Canadian, that is, prominence is given to the geography of our own country. It is quite comprehensive, and yet contained in a small compass, thus combining cheapness with utility. I think it is admirably adapted to the use intended by the compilers, who are to be complimented for the care exercised in the preparation of the work.

W. J. Hendry, Prin., Yorkville School.

Shall use it as a book for "home preparation."

Your "Geography" will very materially aid both teacher and pupils. In most school geographies too much has been given for ordinary requirements, and the student has to wade through a mass of information, of which he can make no present or practical use. Putting work in a tabulated form brings the information required before the pupil at a glance. Another excellent feature is the large amount of attention paid to our own country. We shall use it as a book for "home preparation," and know it will be useful.

W. Rannie, Principal Newmarket Model School.

Cannot keep out of the hands of pupils.

The book we cannot keep out of the hands of pupils preparing for examinations Below is given a brief notice of its merits:—"Gage's Map Geography," easily carried in one's vest pocket, supplies a want long felt by teachers and students, viz., "a bird's-eye view" of the essentials of physical, mathematical, and political geography, concisely and systematically tabulated. With the tables on physical features, cities, &c., before the pupils, their ability to locate the places mentioned can be thoroughly tested within the least possible time. The frequent reproduction of the tables, modified to suit the requirements of the various classes, will afford the pupils excellent practice in test reviews, preparatory to both oral and written examinations. The detailed analysis of the Ontario railway map deserves particular notice. A Geography possessing so many valuable features, and purchasable at such a trifle, must meet with ready sale.

J. H. McFaul, I.P.S., St. Catharines.

GAGE'S MAP GEOGRAPHY PRIMER,

FOR PROMOTION, ENTRANCE, AND INTERMEDIATE EXAMINATIONS.

WHAT LEADING EDUCATIONISTS SAY:

Fills a decided want in our public school manuals; fills it in such a way as to leave absolutely nothing to be desired.

I am, as you well know, generally averse to giving a recommendation to any book if even it is good, because recommendations to be useful at all must be strong, and it is only on rare occasions that it is possible to make them so. I feel no hesitation in saying, however, and this without any request from you, that your "Map Geography" lately published fills a decided want in our public school manuals, and fills it in such a way as to leave absolutely nothing to be desired so far as I can see. Intensely practical, thoroughly Canadian, and very simple, I hope soon to see it in the hands of every teacher and of hundreds of scholars throughout my county. You have my heartiest wishes for its success.

J. C. MORGAN, M.A., Inspector, Co. Simcoe.

Just the thing.

Am much pleased with it. Comprehensive, and to the point, it is just the thing for preparing for examinations.

HARLAN REID, Prin. Mary St. School, Oshawa.

Recommending its general use in our schools.

I have carefully examined "Gage's Primer of Map Geography," and have no hesitation in recommending its general use in our schools. It supplies a want long-felt by teachers in preparing pupils for the entrance and intermediate examinations.

A. KENNEDY, H. M., Mod. Sch., Martintown.

Pleased to see it introduced into our schools.

I have carefully examined your new work entitled, "Gage's Map Geography Primer," and have much pleasure in heartily recommending it. Such a work is much needed for the higher divisions of our public schools. The information it contains is very accurate and full, and is arranged in such a manner that pupils may refer to it at once without difficulty or loss of time. The maps are good, and that of the Dominion is alone worth more than the price of the book. I should be pleased to see it introduced into our schools.

ALEX. M. RAE, Prin., Mod. Sch., Port Perry.

Information not found in ordinary text books.

I think "Gage's Map Geography Primer" is very good, and particularly so as it contains items of information about the lately arranged boundaries and the new railways, not found in the ordinary text-books.

W. K. T. SMELLIE, B.A., H. M., H. S., Gananoque.

An excellent text book.

I have carefully examined "Gage's Map Geography Primer," and I consider it an excellent text-book, and one admirably adapted for classes preparing for entrance and intermediate examinations. The Railway map will add greatly to the value of the book. I have strongly recommended it to my senior classes.

M. P. MCMASTER, H. M., P. S., Flesherton.

Excellent little work.

"Gage's Map Geography Primer" is an excellent little work.

H. S. MCLEAN, Prin., P. S., Lucknow.

Will be of very great benefit to students.

From a careful examination of "Gage's Map Geography Primer," I am convinced that it will be of very great benefit to students who are preparing for the various examinations in geography, and also for its being so admirably adapted for use by the pupils in our public schools. I am very much pleased with the plan of this little work and shall endeavor to have it placed in the hands of the pupils under my charge.

S. ROULSTON, Prin., P. S., Palmerston.

Railway map worth double the price of whole work.

"Gage's Map Geography Primer" is a work long needed and cannot fail in being useful both to teachers and pupils. The railway map and its analysis is alone worth double the price of the whole work. Hope to see it introduced into all our schools.

J. H. SHEPPARD, H. M., P. S., Omemee.

Most useful work ever published. Have introduced it.

"Gage's Map Geography Primer" is the the most useful work on the subject of Map Geography (for schools) ever published. I have introduced it in our schools and the teachers are much pleased with it.

W. J. HALLETT, H. M., P. S., Lindsay.

Eminently adapted for the various examinations.

Having examined "Gage's Map Geography Primer," I have much pleasure in stating that the work is eminently adapted to the requirements of candidates for the various examinations. It is remarkably concise and at the same time complete. The arrangement enables the student to devote his entire attention to the acquirement of the information sought for, and to acquire this he has not to read more than is necessary. The section on the Railways of Ontario supplies a long-felt want to the student. In my opinion a candidate could prepare for examination in a much shorter time with the aid of this work than with the atlas alone.

J. A. STEWART, Prin., P. S., Bracebridge.

Marvel of judicious arrangement.

"Gage's Map Geography Primer" is a marvel of judicious arrangement and condensation, and will be found a most valuable aid to teachers in preparing their pupils for the various examinations.

F. BURROWS, I.P.S., Counties Lennox and Addington.

Recommended it to my pupils.

"Gage's Map Geography Primer" meets the requirements of the day. As notes for his classes, the teacher will find them concise and to the point. The pupils will no longer be left to read up volumes of useless matter of bygone ages to prepare himself to pass the examination creditably. The work supplies what has been very much needed. I have recommended it to my pupils, and find they are well pleased with it.

DAVID HICKS, B.A., H.M., High School, Newburgh.

One of the most valuable books extant.

I have thoroughly examined "Gage's Map Geography Primer," and can testify to its merits, which are three in particular:—it saves the teacher fully one-half his work in preparing this subject for his classes; its terseness; its price. It is one of the most valuable books extant for those who are preparing for examinations.

C. H. FULLER, Prin., Public Schools, Amherstburg.

Just what teachers were asking for.

"Gage's Map Geography Primer" is just what the teachers here were asking for, as it brings the geographical facts up to date.

WM. SCOTT, B.A., Normal School, Ottawa (late Prin., Prov. Mod. School).

The systematical arrangement is excellent.

"Gage's Map Geography Primer" is exactly what teachers and pupils have long needed. Once introduced, a vast amount of superfluous labor will be saved. The systematical arrangement is excellent, the railway table alone being worth much more than the price of the book.

ALEX. PETRIE, Prin., Public Schools, Elora.

A very valuable work.

"Gage's Map Geography Primer" will be found a very valuable work to both students and teachers. The arrangement of the subject matter is decidedly good. Pages 20 and 21, on railways, supply a want long felt. The information respecting the Dominion is full, exact, and of latest date. The maps, though necessarily small, are clear, and show everything of major importance.

F. C. POWELL, Head Master, Mod. School, Kincardine.

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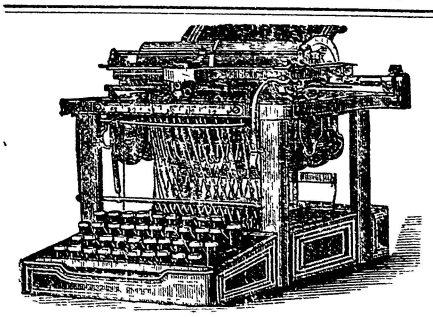

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Foo Choo's Balsam of Shark's Oil

Positively Restores the Hearing, and is the only Absolute Cure for Deafness Known.

This Oil is abstracted from a peculiar species of small **White Shark,** caught in the Yellow Sea, known as CARCHARODON RONDELETH. Every Chinese fisherman knows it. Its virtues as a restorative of hearing were discovered by a Buddhist Priest about the year 1410. Its cures were so numerous and **many so seemingly miraculous,** that the remedy was officially proclaimed over the entire Empire. Its use became so universal that for **over 300 years no Deafness has existed among the Chinese people.** Sent, charges prepaid, to any address at $1.00 per bottle.

Hear What the Deaf Say!

It has performed a miracle in my case.
I have no unearthly noises in my head and hear much better.
I have been greatly benefited.
My deafness helped a great deal—think another bottle will cure me.
My hearing is much benefited.
I have received untold benefit.
My hearing is improving.
It is giving good satisfaction.
Have been greatly benefited, and am rejoiced that I saw the notice of it.

"Its virtues are UNQUESTIONABLE and its CURATIVE CHARACTER ABSOLUTE, AS THE WRITER CAN PERSONALLY TESTIFY, BOTH FROM EXPERIENCE AND OBSERVATION. Write at once to HAYLOCK & JENNEY, 7 Dey Street, New York, enclosing $1.00, and you will receive by return a remedy that will enable you to hear like anybody else, and whose curative effects will be permanent. You will never regret doing so."—EDITOR OF MERCANTILE REVIEW.

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Bells of Pure Copper and Tin for Churches, Schools, Fire Alarms, Farms, etc. FULLY WARRANTED. Catalogue sent Free.
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For the Use of Intermediate Students.

ABRIDGED EDITION.

HAND-BOOK OF ALGEBRA,

BY DR. McLELLAN.

Contains a selection of questions from the Enlarged Edition, suitable for the use of Students preparing for Intermediate Examinations.

Price, ... 90 cents.

W. J. GAGE & CO., Publishers, Toronto.

The Best Elementary Practical Text-Book on the subject.

SEVENTH EDITION.

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A Manual of Spelling and Dictation.

Price, 30 cents.

Largely used in Nova Scotian Schools.

From D. H. SMITH & Co., Truro, N.S.:—

"Please send 500 copies of Gage's Practical Speller with our imprint."

Largely used in the Schools of Quebec.

From DAWSON & Co., Quebec:—

"Please send us 100 copies of Gage's Practical Speller. Used in many of the leading schools of Ontario.

W. J. GAGE & CO., Publishers, Toronto.

A QUESTION

That affects the pockets of Public School Teachers of Ontario.

A QUESTION

That affects the success and welfare of every Teacher who is preparing pupils for admission to High Schools.

WHICH 4th READER

Of the 3 series affords the greatest advantages in preparing pupils for admission to High School?

CAN A TEACHER

Using Nelson Royal Readers compete successfully with one using Gage's Canadian 4th Reader?

The answer can be best given by an examination of the two series and comparing order of difficulty and aids found in different books.

The order of difficulty may be indicated by the following:—Over ONE-FOURTH OF THE SELECTIONS SET DOWN IN THE CANADIAN IV. READER for admission to High Schools found in Nelson's Royal III. Reader.

Nearly ONE-HALF of Toronto University, fourth year HONOR work, or the equivalent thereto, can be found in Nelson's Royal III. Reader.

GAGE'S CANADIAN READERS.

BOOK IV.

New Revised and Authorized Edition. The Best Book of the Series.

Specially prepared with a view of aiding Teachers in preparing Pupils for Admission to High Schools.

Edited by the following well known and practical Canadian Teachers, who thoroughly understand the wants of 4th Book Pupils :—

GEO. CHASE, Esq., M.A., Headmaster Ridgetown High School.
WILLIAM HOUSTON, Esq., M.A., University Senate, Toronto, and Librarian, Legislative Assembly.
JAMES L. HUGHES, Esq., Public School Inspector, Toronto.
RICHARD LEWIS, Esq., Teacher of Reading, Toronto Normal School.

Great advantage is afforded Teachers using Canadian Readers on account of the copious notes and exercises.

TAKE CARE OF THE CHILDRENS' EYESIGHT.

ROYAL READERS CONDEMNED.

WHAT MEDICAL MEN SAY:

"SHOULD NOT HAVE BEEN AUTHORIZED."

What is said by two of the best known Specialists on the Eye in Canada.

(Dr. Rosebrugh and Dr. Ryerson.)

Letter from DR. ROSEBRUGH, Surgeon Toronto Eye and Ear Dispensary,

To Messrs. W. J. GAGE & COMPANY.

Dear Sirs,—In accordance with your request I have examined the Canadian Readers, Primers I and II., and the Royal Readers, Parts I. and II.

I find that the Canadian Readers, both in Primers I. and II., are printed in large bold type, which can be readily seen a distance of $6\frac{1}{2}$ feet. The Royal Readers are printed from three different sizes of type the smaller sizes unfortunately being used in Part I.—the part to be used by the youngest school children and just where it will do most harm. The small type used in the so-called "Word-Reading" in the Royal Reader (Part I.) I find cannot be seen readily at a greater distance than about $3\frac{1}{2}$ feet, and the larger size $4\frac{1}{2}$ feet.

The strain upon the focal adjusting power of the eye is inversely proportional to the distance at which the object looked at can be seen distinctly. In the Canadian Readers, Primers I. and II., the type would not cause an accommodative strain of more than $\frac{1}{78}$, whereas in the Royal Readers in Part I. the larger type would cause a strain of $\frac{1}{54}$, and the small type—used in the Word-Reading—the strain would be as high as $\frac{1}{42}$.

This accommodative strain is, of course, increased many times when the book is read in a bad light,

The evils arising from eye-strain during childhood can hardly be over-stated.

One of my own children became permanently myopic during his attendance at the Model School, which I attribute partly to defective type and partly to insufficiently lighted school-rooms.

In comparing these school books then, and finding that one series (The Royal) requires an eye-strain equal to $\frac{1}{54}$, and in the so-called "Word-Reading" as much as $\frac{1}{42}$, while the other, "The Canadian," requires a strain of only $\frac{1}{78}$, I must of necessity give my preference decidedly in favor of the latter. Type requiring a strain of only $\frac{1}{78}$ is certainly very much better for young children than a type requiring a strain of $\frac{1}{54}$; and, in my opinion, type requiring a strain as great as $\frac{1}{42}$ should ***not be authorized*** by the Education Department.

Yours truly,

A. M. ROSEBRUGH, M.D.,

121 Church Street, Toronto,
October 20th.

SHORT SIGHT AND OTHER DISEASES OF THE EYE, HOW CAUSED.

"A NATIONAL CALAMITY."

Every Parent, Teacher, and Trustee should read the following:

Read the following interesting letter by G. S. RYERSON, M.D., C.M., L.R.C.S., Edin,

Lecturer on the Eye, Ear and Throat in Trinity Medical College, and Surgeon to the Mercer Eye and Ear Infirmary, Toronto.

Gentlemen,—I have received the series of Readers published by you, known as the "Canadian Readers," also the "Royal Readers," together with your letter requesting my opinion on their relative typographical merits from an oculist's standpoint. I would say by way of preface that the importance of putting well and clearly printed books into the hands of the school children can hardly be over-estimated, for it is during childhood that the seeds of short sight are sown. It has been proved by the examination of the eyes of the public school children of Philadelphia that short sight commencing in the primary classes with a low percentage, increases steadily as the pupils rise to the highest grades in the school. Such a state of things can hardly be regarded as less than a national calamity: partly because of the injury the pupils themselves sustain and because short sight becomes hereditary. One has only to look to Germany for the confirmation of this last statement and to discover that imperfectly lighted school-rooms, improperly constructeded desks, and ***school books badly printed on inferior paper*** *are the causes of short sight and many forms of weakness of the eyes. Young children are particularly apt to be afflicted as the tissues of their eyes are softer and more sensitive to abuse. It is erroneous to suppose that short-sighted eyes are strong ones. They are essentially diseased.*

In conclusion I would state that in my opinion your series of Readers fully meet the optical requirements of school children and would specially commend these for junior classes. In my opinion they are superior throughout to the Royal Readers from an optical point of view.

Yours truly,

Toronto, October 17th, 1883. *G. S. RYERSON, M.D.*

What was said by T. R. DUPUIS, M.D., F.R.C.P.S., M.R.C.S.E.,

Surgeon to Kingston General Hospital; Lecturer on Clinical Surgery, and Prof. of Anatomy, in the Royal College Physicians and Surgeons.

Dr. Dupuis, in an address before the County of Frontenac Teachers' Association, held at Kingston, Oct. 19th, on "The Eye in School: its use and abuse" is reported to have said .... "I was shown a few days ago the two series of Readers which are authorised for use in our schools, in one of which the type used is much larger than in the other, and withont prejudice (as I know neither of the publishers) I would say, if you value the preservation of the children's eye-sight, by all means adopt for use in your schools the series in the larger type, published, I believe, by Gage & Co., as it is decidedly the best suited for the Children's sight."

THE ELECTIONS.

In the following constituencies Conventions have been held when action was taken on the

READER QUESTION.

Some of these Conventions were composed of **TRUSTEES AND TEACHERS,** and some of **TEACHERS** only.

The following have recommended

GAGE'S CANADIAN READERS

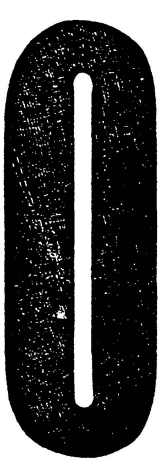
For exclusive use:

ESSEX COUNTY	No. 1.	250 Trustees and Teachers present. Only 4 votes for Royal out of 250.
ESSEX "	No. 2.	
OXFORD "		Teachers Convention unanimous: Trustees. 2 votes for Royals out of 60.
CARLETON	COUNTY.	
LAMBTON, No. 1.	"	
LAMBTON, No. 2.	"	
WELLAND.	"	
PRESCOTT AND RUSSELL	COUNTY.	
DUFFERIN	"	
SOUTH HURON	"	
NORTH HURON	"	
NORTH SIMCOE	"	
EAST GREY	"	
SOUTH GREY	"	
WEST BRUCE	"	
FRONTENAC	"	
LANARK	"	
LENNOX AND ADDINGTON.	"	
WEST VICTORIA, in part,	"	
SOUTH WELLINGTON, conditionally,		
WEST KENT, conditionally.		

The following have recommended

NELSON ROYAL READERS

For exclusive use:



NOTE.—In East Bruce at recent Convention a vote was taken which stood for Royals 30 against 25 for Canadian. This result was no doubt due to the fact that Mr. McGregor, Chairman of Walkerton School Board, had been employed to canvas for the Royal Readers, Inspector and most of Teachers voting for us.

During the past four months both series of Readers have been brought before School Boards, with something like the following results.

GAGE'S CANADIAN READERS

SELECTED AS THE BEST IN THE FOLLOWING:

COLLEGIATE INSTITUTE,

COBOURG.

HIGH AND PUPLIC SCHOOLS:

Picton	High and Public Schools.	
Belleville	"	"
Brighton	"	"
Whitby	"	"
Newburgh	"	"
Farmersville	"	"
Richmond Hill	"	"

COUNTY MODEL SCHOOLS:

Perth—Lanark County Model School.
Port Hope—Durham County Model Sch.
Welland—Welland County Model School.
Stratford—Perth County Model School.
Cornwall—Stormont County Model Sch.
Bradford—S. Simcoe County Model Sch.
Farmersville—Leeds County Model Sch.
Picton—Prince Edward Co. Model Sch.

PUBLIC SCHOOLS:

Pembroke,	**Alliston,**
Cayuga,	**Allandale,**
Bradford,	**Lloydtown,**
Watford,	**Trenton,**
Colborne,	**Cooksville,**
Weston,	**Malton,**
Mitchell,	**Alvinston,**
Southampton.	**Alton,**
Petersburg,	**Bolton,**
Bracebridge,	**Queenston,**
Oshawa (in part),	**Merritton,**
Gravenhurst,	**Baden,**
Hastings,	**Streetsville,**
Bath,	**Minden,**
Sandwich,	**Beeton,**
Angus,	**Tottenham,**
Drayton,	**Odessa,**
L'Orignal,	**Horning's Mills,**

And about One Hundred other Points throughout the Province.

The above illustratione fs found on page 114 Nelson's 2nd Royal Reader.

UNANIMOUS FOR GAGE'S CANADIAN READERS.

THE RESULT AT TRUSTEES' & TEACHERS' CONVENTIONS.

[From Preface of Second Primer,—Royal Readers.]

"The beautiful and appropriate Illustrations which abound in this New Series, while giving additional interest to the Lessons, will furnish a most attractive framework for object-instruction."

ESSEX, NORTH AND SOUTH.

Telegram from Essex Centre.

4 Votes for Royal out of 250. Trustees and Teachers, Essex, North and South.
(Signed) G. SMITH.

OXFORD.

Telegram from Woodstock.

Oxford Teachers' Convention Unanimously Adopts GAGE'S CANADIAN READERS.
Convention of Trustees—2 Votes for Royal out of 60. (Signed) J. McKAY.

FRONTENAC.

Telegram from Kingston.

Frontenac Teachers' Association Unanimous in Favor of GAGE'S CANADIAN READERS
(Signed) ALEX. BROWN.

SOUTH GREY.

Telegram from Durham.

South Grey Recommends GAGE'S CANADIAN READERS. Unanimous Vote.
(Signed) A. MILLER.

EAST GREY.

Telegram from Thornbury

East Grey Convention Teachers and Trustees, Recommends GAGE'S CANADIAN READERS. Only one dissenting. (Signed) J. L. ROBERTSON.

WEST BRUCE.

Telegram from Kincardine.

West Bruce Recommends GAGE'S CANADIAN READERS.
(Signed) A. E. BELCHER.

AT

21 CONVENTIONS

GAGE'S

CANADIAN READERS

Have been Adopted.

This illustration is found on page 107, Nelson Royal Readers, which have not received a single resolution at Teachers' or Trustees' Conventions.

Not a single Convention has passed Resolutions adopting

NELSON'S ROYAL READERS.

The Canada School Journal.

VOL. VIII. TORONTO, NOVEMBER, 1883. No. 76.

The Canada School Journal

IS PUBLISHED THE FIRST OF EACH MONTH AT

11 WELLINGTON ST. WEST, TORONTO, ONT., CAN.

Subscription $1.00 per year, payable in advance.

Address—W. J. GAGE & CO., Toronto.

CANADA SCHOOL JOURNAL HAS RECEIVED

An Honorable Mention at Paris Exhibition, 1878.
Recommended by the Minister of Education for Ontario.
Recommended by the Council of Public Instruction, Quebec.
Recommended by Chief Superintendent of Education, New Brunswick.
Recommended by Chief Superintendent of Education, Nova Scotia.
Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

HOME LESSONS IN ENGLAND.

The following extract gives a view of the bearings of the new Code on power to exact "home lessons." At the request of a number of parents at Bradford the following case was submitted to counsel for opinion :—

(1) "Whether the School Board duly constituted under the Acts for the borough of Bradford, or any committee of that board, have any legal right under the Acts or the Code of the Governmental Department or the by-laws and regulations of the board to exact 'home lessons' and to dispose of the time of children attending any of the schools of the board out of school hours; and if any such right purports to be conferred by any of the board's by-laws and regulations, whether the by-laws and regulations purporting to confer that right are not 'ultra vires'?

(2) "Whether any child who may be corporeally or otherwise punished by any officer or teacher of the board for neglecting or refusing to learn or do 'home lessons' has any, and if so, what right of action, criminal or civil, against such officer or teachers, or against the board?"

OPINION.

1. "I am of opinion that there is nothing in any of the Acts of Parliament relating to public elementary education, in the Code of the Governmental Education Department, or in the by-laws and regulations of the School Board for the borough of Bradford made in pursuance of such Acts, which entitles the School Board for the borough of Bradford, or any committee of that board, to exact 'home lessons,' *i. e.*, to dispose of the time of children attending any of the schools of the board out of school hours, without the express or implied authority of the respective parents or guardians of such children respectively. The authority of a parent is only second to that of the State, and unless a court of law has interfered to prevent him exercising such authority or there is some statutory or common law obligation against which the parent exercises his authority it is paramount, and he may dispose of the time and occupation of his child in any manner which in his opinion is best. There is no common law liability of a parent to educate his children. The Education Acts of 1870 and 1876 are the only ones which create any statutory obligation of a parent to educate his children; and in construing these Acts it must be remembered that they are penal and must be construed strictly. The sections referred to below are the ones which create this liability. By the 74th section of 33 and 34 Vic., c. 75, it is enacted that the School Board may make by-laws *inter alia* (1) requiring parents of children between five to thirteen to attend school (and by a later statute this permissive power is made compulsory); (2) determining the time during which children are to attend.

"It is therefore quite clear that the Education Acts create no duty beyond that of causing children to attend school during school hours, and give no authority to the teachers of schools conducted under the Education Acts to dispose of the time of children out of school hours which they did not possess before these Acts.

"The authority which a teacher derives at common law is one delegated by the parent, and thus standing in *loco parentis* the teacher 'has a portion of the power of the parent committed to his charge—viz., that of restraint or correction as may be necessary to answer the purpose for which he is employed.' The Education Acts having made the attendance of children at school during certain hours practically compulsory, the teacher is by these Acts clothed with such power of the parent as may be necessary for carrying out the purposes of the Act—viz., the education of children during school hours; any further power must be derived from the parent, and if a parent expressly forbids his child to prepare 'home lessons' the implied delegated authority is negatived, and the teacher has no power to inflict any punishment for the neglect of such child to prepare such lessons.

"Not only do the Acts not provide for 'home lessons,' but there is a section of the Act of 1876 which negatives the power of teachers to employ the time of children attending school out of school hours. By sections 5 and 6 of 39 and 40 Vic., c. 79, a penalty is imposed upon any person who takes into his employment (except as mentioned in section 9) children of ten or above ten who have not obtained the certificate therein mentioned. Section 9 provides that a person is not to be deemed to have taken any child into his employment contrary to the provisions of the Act if it is proved to the satisfaction of the court (*inter alia*) 'that such employment, by reason of being during school holidays or during the hours during which the school is not open, or otherwise does not interfere with the efficient elementary instruction of such child, and that the child obtains such instruction by regular attendance for full time at a certified efficient school.'

"That a child attending a certified school regularly during school hours may be employed out of school hours, although the certificate of proficiency named in the Act has not been obtained, clearly shows that the Acts do not between school hours interfere with the common law right of a parent to dispose of the time and occupation of his child as he may please.

"If any such right as the one referred to in the case purports to be conferred by any of the board's bye-laws or regulations, such bye-laws and regulations are, for the reasons before stated, ultra vires, and consequently void.

2. "From the above it follows that a teacher who punishes a child by corporal or other forcible punishment for neglecting to prepare 'home lessons' by command of his father is acting outside the scope of his authority under the Education Acts, and in direct opposition to the one through whom he must claim any authority not derived from such Acts, and would be

liable to a civil action, or might be summoned before the magistrates and fined for an assault, or in a flagrant case an indictment might be prepared.

"The liability of the School Board, or of the individual members thereof, would entirely depend upon facts which I have not before me."

A JOURNALISTIC JANUS.

"A stranger who would form his opinion of our Public and High Schools from Dr. McLellan's report would conclude that the representations we make of the excellence of our school system are as delusive as was our educational exhibit at the Centennial Exhibition."—*Educational Monthly*, Sept., p. 358.

"It may safely be said that there never was a time in our Canadian annals when interest in educational progress was keener and more universal. Unhappily, while this is the case, it would be difficult to point to a time when our educational affairs would less bear looking into. Neither the machinery nor the system commends itself to favour."—*Ibid.*, p. 361.

These superb sentences remind one of the Irishman who declared that he lit with one of his legs on both sides of the fence,—or of Gower's apostrophe to Janus :—

> "Rehearse the reason why thou hast such odds,
> Of facing both ways more than all the gods."

Applying the editor's own philosophy we might quote his own explanation: "So jaundiced are his views that" . . . eh . . . "he must surely have been out of health when he wrote." But now, free from "the irritations of mud-scow journalism," to which he served a goodly apprenticeship, let us wish him better health and cleaner work. *Bon voyage*, grand captain of the little mud-scow!

CO-EDUCATION OF THE SEXES.

The United States Bureau of Education has, we learn from *Science*, published a circular of information, containing the results of an inquiry into the effects of co-educating the sexes in 340 cities and large towns of the Union. Of these, 321 practise co-education throughout the Public School course, 17 co-educate for part of the course, and 2 separate the sexes entirely. A careful analysis of the reasons adduced for co-education enables the editor to formulate them as follows:—Co-education of the sexes is preferred where practised, because it is (1) *natural*, following the usual structure of the family and society; (2) *customary*, or in harmony with the habits and sentiments of every-day life and law; (3) *impartial*, affording to both sexes equal opportunities for culture; (4) *economical*, using school funds to the best advantage; (5) *convenient*, both to superintendent and teachers in assigning, grading, instruction, and discipline; and (6) *beneficial* to the minds, morals, habits, and development of the pupils. The pamphlet concludes by observing that "both the general instruction of girls and the common employment of women as public-school teachers depend, to a very great degree, on the prevalence of co-education, and that a general discontinuance of it would entail either much increased expense for additional buildings and teachers, or a withdrawal of educational privileges from the future women and mothers of the nation."

It is a remarkable anomaly in our provincial system of Normal School training that the sexes are rigidly separated. Male students practise teaching with classes composed entirely of boys, and female students with classes of girls. Yet the moment they enter a school of their own they must teach mixed classes. Is it not time to consider whether on the present plan we are preparing them "for the duties of after life"? Is not this arrangement based on an old European prejudice, wholly alien to the spirit of modern education, and especially contradictory of Canadian public opinion and practice? The one or two schools in which co-education is not adopted will on examination give very little support to the system of separation.

SCHOOL LIBRARIES.

A time there was when almost every school section in the older parts of this Province had a fairly good library. In most towns there is now a library in connection with the Mechanics' Institute; but in many places these libraries are rather poor affairs. Not one of them contains many of the books needed by a progressive teacher. Every Public School should have a gradually increasing stock of books, especially of these two kinds: (*a*) Those suitable for boys and girls; (*b*) Professional and reference books for the teachers. A very small amount of enterprise and self-help would give every teacher command of some of the more expensive books, which are seldom found on his private shelves. By way of encouragement we mention a case within our own knowledge of a teacher who went to a small town where no library existed. In eighteen months this teacher left over two hundred and fifty dollars worth of rare and well chosen books behind him in the school. Where there is a will the way will soon open up. The public only needs to see a little enthusiasm to join in heartily with a live teacher.

Every school should begin to make its own collection of good books. However small the beginning, it should be made, and pupils and parents should be earnestly encouraged to assist in the good work. If a whole township would unite—what would follow?

At Leipsic, Germany, the library of the Comenius Institution loans books to teachers and educational writers. The free use of books is given to residents of Leipsic for four weeks. The library is open on Wednesdays and Saturdays from 2 to 4 p.m., but closed during the vacations of the Leipsic schools. For the protection of the library, applicants who are not personally known to the librarians have to make use of references. Orders sent by postal-card are honored after receiving an official stamp. The expense of transportation is borne by the reader.

PANICS AGAIN.

We have repeatedly warned teachers and school trustees to be on their guard against panics in large schools. One day last month such a disaster very nearly happened in the Wellesley street school in this city. On the 15th ult. six hundred children rushed headlong down-stairs in the school at Waterbury, Connecticut. Many were badly trampled, some received broken bones and internal injuries. The strictest military discipline should be enforced in marching in or out. A drum or a piano to mark the time is an immense advantage.

MODEL SCHOOL INSPECTION.

We have frequently received complaints from Inspectors in past years respecting the way in which the work was divided among them after the Government decided not to appoint a special officer for that duty. The arrangements for the present year are likely to give satisfaction. The efficiency of Inspector Carlyle in his official visits to the Model Schools in the vicinity of this city is favorably commented upon. Dr. McDermaid and Inspector Brown are also impressing masters and students by their energy and practical skill. The bulk of the work will, for the present year as least, be undertaken by G. W. Ross, LL.B., whose popularity and general acceptance have always made his visits red-letter days in the school calendar. His broad sympathy with teachers and students, his wide experience, and intensely practical turn secure valuable results at schools and conventions alike.

A SERIOUS CHARGE.

In the *Globe* of October 5th we find a rather extravagant article on "Reading Aloud." The writer says :—

"Anything more sluggish, humdrum, monotonous, and unintelligent than the average reading aloud in this Canada of ours.... could not well be imagined, and no wonder."

He then proceeds to make teachers wholly responsible for the exaggerated case he has conjured up in his own imagination. To show how very little this great oracle knows of the schools of Ontario as they stand to-day, take these sentences :—

"If the pupils stumble through in any fashion with the "single redeeming feature of not very abominably mispro-"nouncing any of the words it is often all that is either expect-"ed or asked for; while these scholars get but few indications "of what might be called good reading, for the simple yet all-"sufficient reason that the teachers are themselves anything "but adepts in the exercise. We venture to affirm that there "are hundreds—we shall not say thousands—of our teachers "who never once showed their pupils how a sentence ought to "be read with propriety and effect. The lesson is 'heard,' "and each scholar is allowed to stagger through as he best "may, too often in a helpless, limping monotone that has "neither force, vitality, nor intelligence about it."

"We venture to affirm" that nearly the whole of this sweeping indictment against the teachers is false so far as concerns the Province of Ontario. We challenge the *Globe* to produce one hundred teachers in the whole Province "who never once showed their pupils, etc." Bah! "we venture to affirm" that this wiseacre has not spent two hours inside a Public School since 1870, and knows nothing of the way in which reading is actually taught. He has evidently no conception of the silent revolution in methods which the County Model Schools are effecting. He describes a style of teaching which was, perhaps, common a quarter of a century ago, when he himself was a boy.

There are many reasons to give for the prevalence of inferior reading, as :—*(a)* The small value attached to it at the departmental examinations and at the various university examinations. *(b)* The extensive requirements in other subjects to which these public examinations attach a three times greater value. *(c)* The difficulty and unsuitable character of the Readers that have been used for the last fifteen years. We should delight to hear this wise editor "reading aloud with any measure of intelligence and propriety" any one of a hundred lessons we could select from the Third or the Fourth Books of the series just abolished. *(d)* Natural inaptitude of children, lack of voice and ear. Not more than half a dozen in an average hundred pupils could ever become finished readers, simply for the same reason that nine music pupils out of every ten never could be trained to play or sing with power and expression. *(e)* Natural inaptitude for the same reasons of many teachers, *e. g.* We remember a highly accomplished scholar who was also a most successful teacher who could not vary his voice more than two tones, and an honored and useful pastor who never could perceive the distinction between *aye* and *hay*. *(f)* Bad methods and in some few cases "hearing" instead of teaching. This latter certainly bears a very small proportion compared with several of the preceding, as *(a)*, *(b)* or *(c)*, and it is only by ignorantly distorting the actual facts that these remarkable affirmations in the *Globe* could ever be made.

We add one more reason which will probably stun the aforesaid editor: *(g)* Over-teaching, too much time spent in explanation and in model reading, and too little time given to "hearing" and drilling the pupils.

THE SCIENCE OF EDUCATION.

At a meeting of the College of Preceptors at London J. J. Beuzemaker, B.A., ably discussed the present and the future of the science of education. He summed up the parts of the science most essential and of most practical use to the teacher as follows :—

(*a*) PSYCHOLOGY, as related to education, including the laws of Association and their relation to Memory, Reason, and Imagination; the development and the character of the Feelings and the Emotions; and the interdependence of Mind and Body as exemplified in Volition.

(*b*) ETHICS—The ethical problems and their special application to the formation of the character of the young.

In these two branches he would exclude all questions relating to Metaphysics and Ontology, such as Nominalism and Realism, Idealism, the nature of Being and of a First Cause, etc.

(*c*) PHYSIOLOGY AND HYGIENICS—A fair knowledge from a good hand-book, giving special attention to the fundamental truths on ventilation, light, air, soil, exercise, and food.

(*d*) THE HISTORY OF EDUCATION, which is not at present easily accessible in a compact form. He demands a subdivision of this subject into: (1) A history of all the subjects taught in an ordinary school curriculum. We want the history of Reading, Writing, Arithmetic, Geography, Latin, etc. (2) Schools and their organizations. (3) Biographies of the great practical educational reformers, like Comenius, Wolf, Sturm,

Ratke, Basedow, Campe, Salzmann, Pestalozzi, Jacotot, Bell Lancaster, Rosseau, Locke, etc.

We venture to suggest Hopkins' *Outline Study of Man* as the most simple introduction to psychology we have seen. Its popular style, clear arrangement, and thoroughly elementary character supply an excellent introduction to the science for those who wish to make a beginning. We also hazard another suggestion, that the biographies of educational reformers and practical illustrations of methods with classes of pupils might very profitably form a leading feature of the work at our Teachers' Conventions. With less crowded programmes more time could be given to really practical work of this kind.

The American edition of McLellan's Algebra will shortly be issued, under the editorial care of one of the most popular mathematical writers of school text-books. It is satisfactory to see our cousins adopting the works of a Canadian scholar. Less comfortable, however, is the reflection that they have borrowed several of our distinguished thinkers, and may do so again. They are welcome to our books, but we cannot lend them any more men.

Ten years after its general adoption in Ontario, the Unitary Method is being insisted on by the educational authorities of England as compulsory. The English move slowly however, for we observe that in everyone of our best English exchanges, and even in special mathematical publications, the solutions of problems in percentage, interest, discount, etc., are all clumsily wrought out by proportion.

MINISTER *vs.* SUPERINTENDENT.

We notice that many conventions are discussing this question, but as yet it is impossible to give any decision as to the direction of professional opinion. It will do no harm to have the various advantages and disadvantages of each system thoroughly ventilated. Perhaps in this way some amendments may be suggested of great practical value. Surely some good will accrue by concentrating so much experience and thought on a single question. If no other benefit follows the teachers themselves will derive profit from the debate, especially if it is spirited and well conducted. Stagnation is death; better have Thor with sledge-hammer and thunder, than hold our conventions in the sleepy atmosphere of weary common-place where it is always afternoon. Even a little educational heresy is preferable to droning orthodoxy, dumb aimlessness, and snoring vacuity.

CURRENT OPINION.

A speaker at one of the Chautauqua gatherings suggested that the study of literature begin in the third year of the school course and be systematically pursued. It might be as follows: "Let the third be the Whittier year; the fourth, Longfellow; the fifth, Irving and Bryant; the sixth, Tennyson and Dickens; the seventh, historical; the eighth, patriotic; while in the High School, the earlier English writers, with Milton and Shakespeare." He would have the course pursued under a syllabus prepared by the superintendent and school board, and examinations regularly given. Worthy of thought.—*Journal of Education.*

A committee of the St. Louis School Board has recommended that the principle which underlies the Kindergarten system be extended to all the primary schools of that city with a view to eventually modifying the whole plan of public instruction. St. Louis has had a more extensive experience of the Kindergarten system than any other city in America, and this practical testimony to its value will go far towards inducing other localities to take it up in earnest. The experiment is now in progress in Toronto, and if it succeeds, as we have no doubt it will do, this city will be in the vanguard of the movement to afford what the St. Louis *Globe-Democrat* calls "a real science "of teaching a foothold against educational dogma."—*Globe.*

No one can be more averse to what has been well called "hot-house education" than ourselves; but, at the same time, no one can be more alive to the fact that home lessons are virtually a *sine quâ non* to good results from school work. Of course, there must be a limit to work done out of school hours, just as there must be to the regular school work; but in all good foundations, and in all classes of life, the former is, and always should be, supplemented by the latter. "Reasonable home lessons" only are advocated by the department, and it is quite clear that admission cannot be refused to any child whose parents refuse to allow him to do a really reasonable amount of home work.—*Educational Times.*

The subject of railroad geography does not receive the attention it deserves in schools. After the physical and the ordinary geography of our country is known, there should be a thorough training, from the railroad maps that can be easily procured at any general ticket office on the great routes of railway, steamship, canal, and coastwise travel. American civilization is now deepening all its channels along these great routes of intercourse. The leading commercial towns, even the educational centres, are found on these lines; and a school boy ignorant of this feature of American progress is all afloat in his practical estimate of home geography.—*Journal of Education.*

It is not so much overwork that is killing us as under exercise. The fatal routine of the ordinary minister's (and teacher's) life, and its lack of novelty and stimulus, lull his activities into benumbing sleep. No, it is not work that hurts; for we can work as long as the day lasts, if indigestion and rheumatism, the two enemies of all Americans, will only let us alone. To be teased and fretted by pain, to be compelled to write when the neuralgia has twisted your brain out of shape or taken it away altogether—well, under such circumstances, life becomes a heavy burden. In nine cases out of ten it is nothing more than a disgruntled muscle or nerve that stands in your way. —*Dr. G. H. Hepworth, in Independent.*

VENTILATION.—On this subject Dr. Russell, in *The Glasgow Health Lectures*, pertinently says: "Minimize as we may the progressive contamination of an inclosed inhabited space, the contamination is still progressive, and, without renewal of the air, in a few hours you will reach the boundary beyond which lies impaired health. All through the day, remember to have a small chink open at the tops of your windows; or, better still, raise the lower sash, close the opening beneath with a piece of wood fitting closely, and so the air will enter at the junction of the sashes, and pass upward without draught. The secret of ventilation without draught is *a little and constantly.* The mere fact of living in a close atmosphere begets a shivery, susceptible condition of the body, which is intolerant of the slightest sensation of chill. If you accustom yourself and your children to fresh air, you become robust, your lungs play freely, the vital heat is sustained, and even a draught becomes exhilarating."

Mathematical Department.

TORONTO UNIVERSITY EXAMINATIONS, 1883.

FIRST EXAMINATION.

EUCLID AND TRIGONOMETRY.

Examiner—EDGAR FRISBY, M.A.

1. If a straight line be bisected, and produced to any point, the square on the whole line thus produced, and the square on the part of it produced, are together double of the square on half the line bisected, and of the square on the line made up of the half and the part produced.

2. In every triangle, the square on the side subtending an acute angle is less than the squares on the sides containing that angle by twice the rectangle contained by either of these sides, and the straight line intercepted between the perpendicular let fall on it from the opposite angle, and the acute angle.

In any quadrilateral, the squares on the diagonals are together equal to twice the sum of the squares on the straight lines joining the middle points of opposite sides.

3. The angles in the same segment of a circle are equal to one another.

Given the base AB, and vertical angle C, any line drawn dividing this angle in a given ratio will pass through a fixed point.

4. Describe an isosceles triangle having each of the angles at the base double of the third angle.

Are either of the two circles essential to this proposition?

5. If a straight line be drawn parallel to one of the sides of a triangle, it shall cut the other sides or those sides produced proportionately.

If a straight line be drawn parallel to the base of a triangle cutting off the nth part of the sides; and diagonals of the remaining rhomboid are drawn, they will mutually cut off the $(n+1)^{th}$ part of these diagonals.

6. Similar triangles are to each other in the duplicate ratio of their homologous sides.

Divide a triangle into two equal parts by a straight line perpendicular to the base.

7. If from the vertical angle of a triangle a straight line be drawn perpendicular to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular and the diameter of the circle described about the triangle.

8. Prove $7\log\frac{16}{15}+5\log\frac{25}{24}+3\log\frac{81}{80}=\log 2.$

9. The angles of a triangle are in the ratio 1:2:3 and the sum of the sides is 400 feet; find the sides.

10. The vertical angle of an isosceles triangle is 30°, and one of its equal sides is $20\sqrt{3}$ feet, find the area and the length of the perpendicular on the base.

11. The three sides of a triangle are 20, 21, and 29 feet, find the area, and the perpendicular from the opposite angle upon the longest side.

12. ABC is a triangle, and CD is drawn perpendicular to the base, show that the segments of the base are equal to

$$\frac{c^2+a^2-b^2}{2c} \text{ and } \frac{c^2-a^2+b^2}{2c}$$

SOLUTIONS.

1. Book-work. Euclid, Book II., 9.

2. (*a*) Book-work. Euclid, Book II., 13.

(*b*) Let $ABCD$ be the given trapezium. Let X be the middle pt. of AB, Y of BC, Z of CD, and W of DA. Join DB, AC, WY, XZ; also WX, YZ, WZ, XY. Then $WXYZ$ is a parallelogram. For WX, YX, &c., join the middle points of the sides of the triangles DAB, ABC, &c. Then since WX, YZ, &c., is a parallelogram, the sum of the squares on WX, XY, YZ, ZW is=the sum of the squares on WY and XZ. And doubles of these are equal. But twice the squares on WX and ZY=4 times the square on WX =once the square on DB. Similarly for the rest.
Hence AC^2+DB^2=twice (WY^2+XZ^2).

3. (*a*) Book-work. Book III., 21.

(*b*) Let AB be the given base and C, C_1, C_2, &c., be the given vertical angle in different positions. Now the locus of these positions is the arc of a circle which passes through A and B. Let this circle be described, and let the line CP divide the angle C in any ratio and meet the circumference again at P. Join C and P. Then the angle PC_1B=angle PCB. Hence C_1 is divided in the same ratio as C. Similarly for C_2, C_3, &c. Hence it is clear that all the lines pass through P.

4. (*a*) Book-work. Book IV., 10.

(*b*) The first and larger circle is not necessary, for we may use I. 22 to describe the triangle ABD.

5. (*a*) Book-work. Book VI., 2.

(*b*) Let ABF be the triangle. In AB let C be taken so that $AB=n.AC$. Draw CE parallel to BF, join CF and BE, cutting each other in Q. Through Q draw DQG parallel to AF. Then $BD:DA=BQ:QE$ or $FQ:QC$. It may also be shown that $AB:AC=BD:DA$. But $AB=n.AC$, $\therefore BD=n.DA$. Consequently $AB=(n+1)AD$, and therefore $BE=(n+1)QE$.

6. (*a*) Book-work. VI., 19.

(*b*) If the triangle is isosceles the perpendicular from the vertex will bisect the triangle. But if not, bisect AB in E, draw EF perp. to BC. Take BG a mean proportional between BF and BC, draw GH parallel to FE, then GH bisects the triangle.

For $\triangle BEF:BGH=BF:BC$. (Similar triangles & VI. 19.)
$=\triangle BEF:BEC.$
$\therefore \triangle BGH=\triangle BEC.$
$=\frac{1}{3}\triangle BAC. \quad =HACG.$

7. Book-work. See VI. C.

8. $7\log\frac{2^5}{3\times10}+5\log\frac{100}{2^5\times3}+3\log\frac{3^4}{2^3\times10}$
$=7(5\log2-\log3-1)+5(2-5\log2-\log3)+3(4\log3-3\log2-1)$
$=\log2.$

9. $A:B:C=1:2:3$; but $A+B+C=180°$.
$\therefore A=30°$, $B=60°$, $C=90°$;
$\therefore \sin A=\frac{1}{2}$, $\sin B=\frac{1}{2}\sqrt{3}$, $\sin C=1$.

Also $\frac{\sin A}{a}=\frac{\sin B}{b}=\frac{\sin C}{c}$.

$\therefore \frac{1}{2a}=\frac{\sqrt{3}}{2b}=\frac{1}{c}$

and $a+b+c=400$, three equations which give a, b, and c.

10. Base angles must=60°. Let p=perp.
Then $\sin 60°=p\div20\sqrt{3}=\frac{1}{2}\sqrt{3}$, $\therefore p=30$.
Let b=base, then $30^2+\frac{1}{4}b^2=400\times9$, $\therefore b=60\sqrt{3}$;
and area$=\frac{1}{2}bp=900\sqrt{3}$.

11. Area$=\sqrt{(50\times49\times41)}$.
Area$=\frac{1}{2}p\times29=\sqrt{(50\times49\times41)}$, $\therefore p$=&c.

12. Let BC be the base and p the perp. from A.
Let x=one segment, and
$\therefore a-x$=other segment.
$\therefore c^2-x^2=b^2(a-x)^2=p^2$,
$\therefore x$=&c.

ALGEBRA AND TRIGONOMETRY.

Examiner—W. FITZGERALD, M.A.

1. (1) Given $\left\{\begin{matrix} x:y::a:b \\ x^2+y^2=c^2 \end{matrix}\right\}$ find the values of x and y.

(2) Given $\left\{\begin{matrix} 2x+4y-3z=22 \\ 4x-2y+5z=18 \\ 6x+3y-2z=31 \end{matrix}\right\}$ find the values of x, y, and z.

2. Solve the following equations:

(1) $\left\{\begin{matrix} x^2+y^2=41 \\ xy=20 \end{matrix}\right\}$

(2) $x^4-4x^3+6x^2-4x=15=0$

(3) $\left\{\begin{matrix} x^2+xy+y^2=7 \\ x^4+x^2y^2+y^4=21 \end{matrix}\right\}$

3. Define an arithmetical and a geometrical series.

(1) Find the nth term, and the sum of n terms of an arithmetical series.

(2) Insert five arithmetical means between 3 and 16.

4. In a geometrical series, if the ratio be a proper fraction, show that the sum of the series when the number of terms is increased indefinitely has a limiting value.

The limit of the sum of a geometrical series is $3\frac{1}{2}$, and the second term is $\frac{-5}{2}$; find the series.

5. Find three numbers in geometrical progression such that their sum shall be 21, and the sum of their squares 189.

6. Define the trigonometrical ratios of an angle less than 90°, and prove:

(1) $\sin^2 A + \cos^2 A = 1$

(2) $\sin A \cos A = \dfrac{1}{\tan A + \cot A}$

7. Prove the following formulæ:

(1) $\sin \overline{A - B} = \sin A \cos B - \cos A \sin B$.

(2) $\tan \frac{1}{2} A = \dfrac{1 - \cos A}{\sin A}$.

8. In any triangle establish the following relations:

(1) $\dfrac{\sin A}{a} = \dfrac{\sin B}{b} = \dfrac{\sin C}{c}$

(2) $\cos A = \dfrac{b^2 + c^2 - a^2}{2bc}$

(3) Area $= \sqrt{s(s-a)(s-b)(s-c)}$

9. Having given two sides and the included angle of a triangle, obtain formulæ from which to find the other two angles and the third side.

10. Discuss the ambiguous case in the solution of triangles.

11. Find the sine and cosine of 45° and 30°, and deduce those of 75° and 15°.

SOLUTIONS.

1. (1) $\dfrac{x^2}{y^2} = \dfrac{a^2}{b^2}$ $\quad \therefore \dfrac{x^2}{x^2+y^2} = \dfrac{a^2}{a^2+b^2} = \dfrac{x^2}{c^2}$ $\quad \therefore x = \pm \dfrac{ac}{\sqrt{(a^2+b^2)}}$ &c.

(2)

$$\begin{array}{rl|rrrl}
A= & & 2 & 4 & -3 & -22=0 \\
B= & & 4 & -2 & 5 & -18=0 \\
C= & & 6 & 3 & -2 & -31=0 \\
\hline
A+B+C & & 12 & 5 & 0 & -71=0=D \\
\hline
3C-2A= & & 14 & 1 & 0 & -49=0=E \\
5E-D & & 58 & 0 & 0 & -174=0
\end{array}$$

or $58x - 174 = 0$ $\quad x=3,\ y=7,\ z=4$.

See McLellan's *Handbook*, page 178.

2. (1) Multiply 2nd by 2; add and subtract; take square roots and $x+y=\pm 9$, $x-y=\pm 1$, $\therefore x=\pm 5$ or $y=\pm 4$.

(2) $1+6-15=-4-4$ $\quad \therefore x+1$ is a factor.

See McLellan's *Handbook*, page 42, § 16.

$$\begin{array}{r|rrrr|r}
 & 1 & -4 & +6 & -4 & -15 \\
-1 & & -1 & +5 & -11 & +15 \\
\hline
 & 1 & -5 & +11 & -15 & \\
+3 & & +3 & -6 & +15 & \\
\hline
 & 1 & -2 & +5 & &
\end{array}$$

Now the roots of $x^2 - 2x + 5 = 0$, are $1 \pm 2\sqrt{-1}$, which with -1 and 3 are all the roots of the $=n$.

(3) 2nd ÷ 1st $= x^2 - xy + y^2 = 3$. Combine with 1st and $xy=2$, $\therefore$ from 1st $x+y=\pm 3$, and from 2nd $x-y=\pm 1$, $\therefore$ &c.

3. Book-work. (1) do.

(2) $a=3$ and $a+6d=16$, $\therefore d=\frac{13}{6}$, and the series is $3,\ 5\frac{1}{6},\ 7\frac{1}{3},\ 9\frac{1}{2},\ 11\frac{2}{3},\ 13\frac{5}{6},\ 16$.

4. (1) Book-work.

(2) $\dfrac{a}{1-r} = 3\frac{1}{3}$, and $ar = -\frac{5}{2}$, $\quad \therefore r = +\frac{3}{2}$ or $-\frac{1}{2}$.

Now the latter value only will apply, $\because r < 1$, $\therefore a = 5$, and the series is $5 - \frac{3}{2} + \frac{5}{4} - \frac{5}{8} +$ &c.

5. $a + ar + ar^2 = 21$, and $a^2 + a^2r^2 + a^2r^4 = 189$.

Dividing, $a - ar + ar^2 = 9$, $\therefore$ from 1st $ar = 6$, or $a = \dfrac{6}{r}$

Substituting $\dfrac{6}{r} + 6 + 6r = 21$, *i.e.* $6r^2 - 15r + 6 = 0$,

Or $\quad (2r-1)(r-2) = 0$, $\therefore r = \frac{1}{2}$ or 2, and $a = 12$ or 3.

Hence the numbers are 12, 6, 3, or 3, 6, 12.

6. (1) Book-work.

(2) $\dfrac{1}{\tan A + \cot A} = \dfrac{1}{\dfrac{\sin A}{\cos A} + \dfrac{\cos A}{\sin A}}$ &c.

7. (1) Book-work.

(2) $\tan \frac{1}{2} A = \dfrac{\sin \frac{1}{2} A}{\cos \frac{1}{2} A} = \dfrac{1 - \cos A}{\sin A}$.

8, 9, 10, 11. Book-work

ALGEBRA AND TRIGONOMETRY.

HONORS.

Examiner—W. FITZGERALD, M.A.

1. Solve,

(1) $\begin{cases} x^2 + xy = 65 \\ y^2 - xy = 24 \end{cases}$

(2) $\begin{cases} x^3 + y^3 + (x+y)xy = 13 \\ \dfrac{x^2y^2}{x+y} = 36 \end{cases}$

2. Find the number of variations of n different letters taken r together; also the number of such variations, when each may enter 1, 2, 3, &c., or r times in each variation.

If the number of variations of $a+b$ things taken two together be 56, and of $a-b$ things 12, find the number of combinations of a things, taken b together.

3. State the Binomial Theorem, and prove it when the index is a positive integer.

Expand to five terms, $(a - 3x)^{-\frac{1}{3}}$.

4. Find the present value of an annuity A for n years at compound interest.

The reversion of a freehold estate worth P pounds per annum to commence a years hence is to be sold. Ascertain its present value at r per cent. per annum compound interest.

5. Define a *continued fraction*; and illustrate the method of converting a quadratic surd to a continued fraction.

Express as continued fractions

(1) $\sqrt{11}$; (2) $\sqrt{13}$; (2) $\sqrt{17}$.

6. What is a recurring series?

Explain what is meant by the *scale of relation* of a recurring series.

Sum to n terms, and *ad infinitum* the series

$$\frac{1}{1 \cdot 2 \cdot 3} + \frac{1}{2 \cdot 3 \cdot 4} + \frac{1}{3 \cdot 4 \cdot 5} + \text{ \&c.}$$

7. Find the radii of the inscribed and escribed circles of a triangle in terms of the sides and angles.

8. In any triangle prove:

(1) $\dfrac{\sin(B-C)}{\sin(C-A)} = \dfrac{(b^2-c^2)\sin B}{(c^2-a^2)\sin A}$

(2) Area $= \frac{1}{2}(b^2+c^2)\dfrac{a \sin B \sin C}{b \sin B + c \sin C}$.

9. Show how to expand a^x in a series of ascending powers of x.

10. State Demoivre's Theorem, and assuming its truth prove,

(1) $\cos a = 1 - \dfrac{a^2}{1 \cdot 2} + \dfrac{a^4}{1 \cdot 2 \cdot 3 \cdot 4} \cdots$ &c.

(2) $\sin a = a - \dfrac{a^3}{1 \cdot 2 \cdot 3} +$ &c....

11. Sum to n terms:

$$\sin\theta - \sin(\theta + a) + \sin(\theta + 2a) \ldots$$

and deduce the sum of n terms of the series, $\cos\theta - \cos 2\theta + \cos 3\theta \ldots$ &c.

SOLUTIONS.

1. (1) Put $y = vx$, and we have $x^2 + vx^2 = 65$, and $v^2x^2 - vx^2 = 24$. Divide these equals and cancel and $(1+v) \div (v^2 - v) = \frac{65}{24}$. Whence $65v^2 - 89v - 24 = 0$, and $v = \frac{8}{5}$, or $-\frac{3}{13}$, Whence x and y=&c.

(2) (By W. N. Watson, Seaforth.)

Transform first equation into $(x^2+y^2)(x+y) = 13$ and multiply by second and we have $(x^2+y^2)x^2y^2 = 13 \times 2^2 \times 3^2$. Now, looking at the form of each side we see that they correspond and that $x^2 + y^2 = 13$, $x^2 = 2^2$, and $y^2 = 3^2$ will satisfy the equation. Whence $x = \pm 2$. $y = \mp 3$. Then by dividing down the equation with these values we get a quadratic which will give the other two values of x and of y.

2. (*a*) $V_n = n(n-1)(n-2) \ldots (n-r+1)$.

(*b*) Let a be placed before each of the n things a, b, c, d, &c., thus forming n variations. Similarly for b, c, d, &c., each of the rest. Thus there will be formed n sets with n variations in each set when letter enters twice in each variation, *i.e.* $n \times n$ or n^2 variations altogether. Again place a before each of these n^2 variations, and form n^2 variations 3 and 3 together. Place b, c, d, &c., &c. The whole number of variations is nr.

(c) We have $(a+b)(a+b-1)=56$

$(a-b)(a-b-1)=12$, or

$(a+b)^2-(a+b)-56=0$, and

$(a-b)^2-(a-b)-12=0$.

Whence $a+b=8$, and $a-b=4$, and $a=6$, $b=2$.

Number of combinations $=\frac{8\cdot5}{1\cdot2}=15$.

3. Book-work.

$$(a-3x)^{-\frac{1}{2}}=a^{-\frac{1}{2}}\left(1-\frac{3x}{a}\right)^{-\frac{1}{2}}$$

$$=a^{-\frac{1}{2}}\left\{1+\tfrac{1}{2}\left(\frac{3x}{a}\right)+\frac{1\cdot3}{1\cdot2\cdot4}\left(\frac{3x}{a}\right)^2+\frac{1\cdot3\cdot5}{1\cdot2\cdot3\cdot8}\left(\frac{3x}{a}\right)^3+\frac{1\cdot3\cdot5\cdot7}{1\cdot2\cdot3\cdot4\cdot16}\left(\frac{3x}{a}\right)^4+\text{\&c.}\right\}\text{ etc., etc.}$$

4. (1) Let R = rate per cent. and $M=(1+r)$ also V = pres. value.

Then $VM^n=A.\frac{M^n-1}{M-1}=\frac{A}{r}(M^n-1)$

$$\therefore\ V=\frac{A}{r}(1-M^{-n})=\frac{A}{r}\left(1-\frac{1}{(1+r)^n}\right).$$

(2) In the case of rent of an estate n becomes $=\infty$ $\therefore V=\frac{P}{r}$

But if the rent does not begin for a years we must subtract from this the value of the annuity for a years, *i.e.* the value of the reversion is

$$=\frac{P}{r}-\frac{P}{r}\left(1-\frac{1}{(1+r)^a}\right)=\frac{P}{r}\cdot\frac{1}{(1+r)^a}.$$

5. $\sqrt{11}=3+(\sqrt{11}-3)=3+\frac{2}{\sqrt{11}+3}=3+\frac{1}{\frac{\sqrt{11}+3}{2}}$;

$$\frac{\sqrt{11}+3}{2}=3+\frac{\sqrt{11}-3}{2}=3+\frac{2}{2(\sqrt{11}+3)}=3+\frac{1}{\sqrt{11}+3}\ \text{\&c.}$$

$\therefore\ \sqrt{11}=\frac{1}{3+}\frac{1}{6+}\frac{1}{3+}\frac{1}{6}$ &c. Similarly

$$\sqrt{13}=3+\frac{1}{1+}\ \frac{1}{1+}\ \frac{1}{1+}\ \frac{1}{1+}\ \frac{1}{6+}\ \text{\&c.}$$

$$\sqrt{17}=4+\frac{1}{8+}\ \frac{1}{8+}\ \frac{1}{8+}\ \text{\&c.}$$

6. Book-work.

(1) The nth term $=\frac{1}{n(n+1)(n+3)}$. To determine whether the terms of the series can each be separated into two parts, assume $\frac{1}{n(n+1)(n+2)}=\frac{A}{n(n+1)}+\frac{B}{(n+1)(n+2)}=\frac{n(A+B)+2A}{n(n+1)(n+2)}$

$\therefore\ A+B=0$ and $2A=1$ or $A=\frac{1}{2}$, $B=-\frac{1}{2}$.

Whence the series becomes

$$S=\tfrac{1}{2}\left\{\frac{1}{1\cdot2}+\frac{1}{2\cdot3}+\frac{1}{3\cdot4}+\text{\&c.}+\frac{1}{n(n+1)}\right\}$$
$$-\tfrac{1}{2}\left\{\frac{1}{2\cdot3}+\frac{1}{3\cdot4}+\text{\&c.}+\frac{1}{n(n+1)}+\frac{1}{(n+1)(n+2)}\right\}$$

or $S=\frac{1}{4}-\frac{1}{2}\cdot\frac{1}{(n+1)(n+2)}=\frac{n(n+3)}{4(n+1)(n+2)}$, and $\frac{1}{4}$ when $n=\infty$.

7. Book-work.

8. (1) $\frac{\sin A}{a}=\frac{\sin B}{b}=\frac{\sin C}{c}$, whence by symmetry

$$\frac{\sin^2B-\sin^2C}{\sin^2C-\sin^2A}=\frac{b^2-c^2}{c^2-a^2}=\frac{\sin(B+C)\sin(B-C)}{\sin(C+A)\sin(C-A)}$$

$$\therefore\ \frac{\sin(B-C)}{\sin(C-A)}=\frac{b^2-c^2}{c^2-a^2}\cdot\frac{\sin(C+A)}{\sin(B+C)}=\frac{(b^2-c^2)\sin B}{(c^2-a^2)\sin A}.$$

(2) If area $=\frac{1}{2}(b^2+c^2)\frac{a\sin B\sin C}{b\sin B+c\sin C}$;

substitute $\frac{c}{b}\sin B$ for $\sin C$ and we get

area $=\frac{\frac{1}{2}(b^2+c^2)ac\sin^2B}{(b^2+c^2)\sin B}=\frac{1}{2}ac\sin B$, which is true.

9. Exponential theorem. Book-work.

10. Book-work.

11. (1) Required sum $=\dfrac{\sin\left\{\theta+\frac{(n-1)(a+\pi)}{2}\right\}\sin\frac{n(a+\pi)}{2}}{\sin\frac{a+\pi}{2}}$

(2) Sum $=\dfrac{\cos\left\{\theta+\frac{(n-1)(\theta+\pi)}{2}\right\}\sin\frac{n(\theta+\pi)}{2}}{\sin\frac{\theta+\pi}{2}}$

See Todhunter's Trigonometry, § 306.

Correspondence.

HOW THE SALE OF SCHOOL BOOKS IS PROMOTED.

To the Editor of the CANADA SCHOOL JOURNAL.

SIR,—I have received the following extraordinary communication from Mr. S. G. Beatty, the manager of the Canada Publishing Company, and knowing that this firm has been in the habit of using its organ, the *Canada Educational Monthly*, for the purpose of attacking school officials for the furtherance of its own interests, and deeming it probable that other communications of a similar character have been sent to school inspectors with the object of intimidating them in order to promote the adoption of the Royal and the Royal Canadian Readers, I therefore th ught it best for the good of education in this Province to forward the letter for publication.

Copies of the same letter have been placed by me in the hands of the Hon. A. S. Hardy, Acting Minister of Education, and of Alexander Marling, Esq., Secretary of the Education Department.

A programme of our Teachers' Association, which meets on the 4th and 5th instants, was transmitted by me a few days before the receipt of the manager's favor to the office of the *Canada Educational Monthly*, and I have no doubt that it was intended by Mr. Beatty and by the "Public School editor" (Mr. David Boyle, of Elora, who is an agent of this firm or firms) to make an effort to carry our convention. "The Public School editor" failed last year in this division of Wellington in obtaining a favorable verdict for his Readers.

I leave the public to draw their own conclusions.

Yours, etc.,

DAVID P. CLAPP.

Harriston, Oct. 2.

CANADA PUBLISHING COMPANY (Limited),
32 and 34 Front street,
TORONTO, Sept. 20th, 1883.

D. P. Clapp, Esq., B.A., Harriston:

DEAR FRIEND,—Information *re cribbing*, Provincial Teachers' and University Examination papers, showing manner in which certificates and degrees were obtained, etc., has been furnished the *Educational Monthly* for publication, with your name brought prominently forward. On account of our former friendly relationship, I prevailed upon them to defer printing the article in this month's issue, feeling that even were everything related not true, it might do a man in your position irrevocable injury.

I interceded for you in this same connection once before, and although being now repaid by *your doing everything you can against my interests*, I deemed it only fair, as the matter came under my notice, to do what I could to stay publication until you at least knew something of the purport of the article. I have thus done what I would expect an old acquaintance to do for me in such a case, and would advise you, if you do not wish the affair published, to communicate with the "Public School Editor" of *The Canada Educational Monthly*.

Yours truly,

S. G. BEATTY.

[The preceding correspondence reveals a small part of the desperate tactics to which the Canadian agents of Nelson's Roya Readers have resorted. In order to foist their foreign books upon our schools they deliberately attempt to terrorize over a Public School Inspector by pretending that they hold damaging infor-

mation against him which they will publish in their little mud-scow-monthly unless he withdraws his opposition to their School Readers. O Impudence, thy name is ———— Co. (Limited) !—EDITOR.]

NORTHPORT, MICH., Oct. 8th, 1883.

To the Editor of the Canada School Journal:

Permit me to say a word in answer to a few statements found in your paper of September. It was stated by a member of the Ontario Teachers' Association that the average daily percentage of attendance of pupils in the United States was higher than in Ontario. This is true from various reasons. 1st. Because the school terms are short and school is held only while the largest number can attend about six or eight months in the year. 2nd. Teachers take much pains to secure regularity, by the granting of prizes and reporting in county papers the names of pupils regular in attendance, perfect in deportment and recitations. Although teachers are not as well qualified as a rule in the United States as in Ontario, they are alive, read school journals, pursue a regular course of study, and strive to improve. It is as difficult to obtain a 3rd grade certificate in Ontario as a 1st in many States, yet the schools are not quite in that ratio so far as education and progress is concerned Why cannot Ontario support a weekly school journal? Surely there are *live* teachers enough for that. Now I would suggest that Examining Boards give this subject more thought, and urge upon teachers the necessity of reading much upon the subject of Theory and Practice of Teaching. It is not enough that a man have a strong and well-trained mind. It should be centred upon his particular line of work. I am aware that many teachers there take no school journal. It is the law in many counties in the State of Michigan that a teacher cannot receive a certificate unless he reads an educational paper. Again, there should be a township organization of teachers, where the parents, pupils, and teachers meet to discuss educational matters. I believe that Ontario, with her well equipped army of teachers, could in this way arouse such an interest as would place her schools still further ahead of anything in the world to-day. She is second to none now.

Yours respectfully,

SAMUEL WARWICK,

Teacher, Northport, Mich.

[We heartily commend the above thoughtful letter, and invite our esteemed correspondent to furnish us with further particulars regarding U. S. schools.—EDITOR.]

NO RECESS.—The question now exercising the mind of teachers and school officers in some sections of our country is, "Shall we grant recess or not?" We say grant recess and give pupils fresh air and a run of a few minutes and they will study so much the better for it. The argument against recess is that the children will become demoralized by contact with one another. True, morally and ethically a few may suffer, but all will gain physically; and sooner or later those pure ones will come in contact with the rude world anyway, and what matter whether a few days sooner or later? Again, the chances in most communities, unless they are totally depraved, should be on the side of moral gain for those whose home training and influence are of such a nature as to need strengthening in that direction. Time granted for recess is not lost by any means.

The Albany *Times* speaks of the two great evils of American schools, overcrowding and overteaching, and makes the following suggestive statement: "It is a fact which Americans may as well acknowledge, first as last, that their educational system contains some radical defects. Our school children are far from strong, mentally and physically, and the education given is often far from practical. Any well-considered plans to improve the system by remedying these defects should meet with careful consideration."

As each generation comes into the world devoid of knowledge, its first duty is to obtain possession of the stores already amassed. It must overtake its predecessors before it can pass them.—*Horace Mann.*

Special Articles.

THE KINDERGARTEN.*

(Continued from last month.)

FORMS OF BEAUTY.

The Forms of Beauty are developed by placing the four cubes exactly on the squares of the table and the four other blocks in the middle, one on the right, one on the left, one at the top, one at the bottom, moving each one-half inch at a time, always observing the law of opposites, each movement developing a symmetrical figure, until we come back to the original form. A great variety of forms may be made by beginning with a different ground form, working always according to the law of opposites.

FORMS OF LIFE.

The Forms of Life are those which represent the things seen in the daily life of the children—houses, chairs, tables, churches, boats, etc. Their first desire is to pile up the forms as high as possible and then demolish them. We gratify them by allowing them to pile them up and teach them to take them down one block at a time. The natural impulse is to destroy and scatter; they must be taught not to destroy, but to construct one form out of another.

Children may learn much of practical everyday life by means of these Gifts; for example, making an oven out of the cube. The first thing that presents itself is how a fire should be made, then each child selects something to be cooked for dinner, either meat, vegetable, or dessert; how they should be prepared and cooked may be explained, of course one or two things at a time. The dinner cooked, tables and chairs are required, and must be developed from the oven. A table and two chairs are made; joining the table and chairs we have a bed, from the bed we develope a hat, from the hat a cross, from the cross the cube.

Children do not learn this at once, it is a lesson that must be oft repeated, but with time and patience they learn to develop one form out of another, and to see the beauty of order and development.

These give employment to their natural activities, and their ingenuity and invention are brought out and cultivated by constructing other forms from the same material, not by knocking the structure down and reconstructing, but developing one form out of another, beginning always with the most simple forms, and proceeding, step by step, to the more difficult ones.

Through these forms the love of the beautiful is cultivated; and that beauty is the result of order and harmony is most clearly set before the children. They train the eye to see quickly and distinctly, the hand to work carefully, and the feelings to reject everything that is untidy or inharmonious.

The inner perception and intelligence grow brighter and clearer, as the eye is cultivated, to see and appreciate the beautiful.

Through its divisions the Third Gift enables the child to strive after the comprehensions both of external appearances and inner conditions; it leads from the conception of a simple unit to the elements of which it is composed, and thus prepares the way for rational analysis.

This analysis or division of the cubes into parts is followed either by forming the parts again into the original whole, or by creating with these given parts a newly shaped whole, thus ending as should every analysis in synthesis.

In accordance with this development the child will vary the forms, and will find them infinite in variety; the power of repre-

* Read before the Lennox and Addington Teachers' Association, by Miss Emma Robertson, Kindergartener.

sentation will be exercised, and the faculties of perception, reflection, and imagination will be cultivated.

The result of this training or play (it partakes of both) is the exercise of the mental powers—imagination, understanding, will, perception, reflection, and cultivation of taste for the beautiful.

The children learn how to express themselves understandingly about the things they make, the hands and fingers are exercised in a way to make them skilful; they also learn something of the law of weight and the law of equilibrium.

I have been thus minute in the details of this Gift, because the principles on which it is manipulated apply to all the other Gifts and Occupations of the Kindergarten, and the results aimed at are the same, *i.e.*, to develop the moral, physical, and mental nature of the children equally, not to force them in any way.

FOURTH GIFT.

The Fourth Gift resembles the Third Gift in size and number of blocks taken as a whole, and differs from it in the form of the blocks. The cube two inches square is divided once vertically and three times in the opposite direction, making eight oblong blocks, or bricks, as the children call them, one inch wide and two inches long. The capacity for work is increased twofold.

The blocks of the Third Gift always present the same appearance on whatever side they are placed, while those of the Fourth Gift change their appearance at every change of position, and with them the forms can be made in three different ways, lying, sitting, and standing, thus giving a greater number and variety of forms than can be made with the Third Gift.

The forms of Knowledge, Life, and Beauty are developed from this Gift, and the same principles are applied as in the Third Gift, but result in a greater number and variety of forms.

FIFTH GIFT.

The Fifth Gift is also a cube enlarged to three inches square, containing twenty-seven cubes one inch square; three of these are divided once diagonally in halves and three divided twice diagonally in quarters, making thirty-nine pieces in all. The Fifth Gift is an extension of the Third Gift. With the increased material and variety of shape, the facilities for building are increased; the halves and quarters being of the form of the right-angled triangle, they can build large houses with gabled roofs, or a number of small houses, which greatly pleases the children.

This Gift is best adapted for the forms of Knowledge, as more of the geometrical forms may be developed with the slanting line. It also offers greater facility for the study of number. Not only can addition, subtraction, multiplication, and division be carried to a greater extent than with the other Gifts, but the children get a more practical knowledge of fractions; it is better adapted to the forms of Knowledge and Life than for the forms of Beauty, because the pieces are so numerous. It is not an easy thing to utilize all the blocks and develop them symmetrically; it is a law of the Kindergarten that none shall be left out, but all the box contains must be used.

SIXTH GIFT.

The Sixth Gift occupies the same space as the Fifth Gift, so resembles it in size, but differs from it in the form and number of blocks; it contains twenty-seven oblongs the size of the Fourth Gift, of which it is the complement or extension. Three of these blocks are divided lengthwise, making six pillars two inches long and half an inch thick; six of the oblongs are divided crosswise, making twelve blocks one inch square and half an inch thick.

The children become acquainted with these two Gifts by comparing their parts with each other and with the other forms known to them. The new form in the Fifth Gift was the triangle; in this Gift the new form is the pillar, in which the children discover wonderful possibilities for building.

In these two Gifts the different tastes of the children will show themselves; some prefer to build houses, some furniture. A few will build crosses or monuments, or the forms of Beauty; they will be the older and more cultivated. In these cases the taste inclines to industrial art, designing patterns for carpets, oil-cloths, and ornamentation of buildings. In all this work the children are encouraged to invent, and to imitate as little as possible. It is a lesson slowly learned, as children are naturally great imitators, but after a time, when they become familiar with the material, they will seek for new forms, and learn to develop them from the old ones. They are not under much restraint, heads and hands are usually too busy to get into mischief. Whenever the opportunity occurs a little song is sung either by one or all of the children, and they are allowed to talk one at a time about the things they are making.

TABLETS.

In the Kindergarten we dissect the cube, having it as a whole in the Second Gift, in eight small cubes in the Third Gift, and the eight oblongs or bricks of the Fourth Gift, which are one-half the thickness of the cubes of the Third Gift.

It is still further divided in the Tablets, which represent the surface. They are divided into five forms—the square, right-angled triangle, equilateral triangle, scalene triangle, and obtuse-angled triangle. They are laid on the squares of the table, and the forms of Life, Knowledge, and Beauty developed in a flat outline, making beautiful mosaic figures and designs for all kinds of inlaid work. The Tablets are painted two different colors, as red on one side, blue on the other, which brings out the patterns. It is quite easy to see how this cultivates industrial art in the children.

STICK LAYING.

From the surface we proceed to the line or edge. Sticks the thickness of matches are used; they are cut in lengths of one, two, three, four, and five inches, and laid on the squares of the table. We begin with one stick for each child and add more as the children require them. They take great delight in the beautiful forms which they develop with the sticks. It is a good training for the fingers, while the lessons they learn of neatness, carefulness, and accuracy are invaluable; it also furnishes a fine opportunity for teaching them number.

SLAT INTERLACING.

Making forms that will not fall apart when handled, of wooden splints. This work requires a great deal of patience on the part of the children, for if one splint is not in the proper position, the form will all fall apart when lifted from the table. With practice and experience they become very skilful, and a great variety of beautiful forms may be developed.

CONNECTED SLAT.

The Connected Slat is a measure made of wood in lengths of six inches connected with pivots, so that the different angles and geometrical forms can be made with it.

Ring-laying and the Thread Game represent the curved line. The rings are made of steel, flat on one side; the circle is divided into halves and quarters. These are laid on the table in the same way that we do the sticks, though very different forms are developed from them.

THREAD GAME.

We use a piece of bright colored worsted six inches long, the two ends tied together; this is laid on a wet slate in the form of a square, circle, triangle, or any of the geometrical forms. Each corner is drawn towards the centre one-half inch at a time, until they all meet at the centre.

POINT.

From the line the next step is the Point. A variety of things may be used to represent the Point—beans, split-peas, beads, small sea shells, popcorn, etc. One of any of these things is given to each of the children, which they naturally examine with more or less curiosity to know where it came from and all about it; thus they learn many useful lessons, and take more pleasure in working with it. When ready for work, each child is given a handful of the material; they place them one at a time on the intersection of the lines on the table, and work either from dictation or according to their own fancy, developing either a form of Life, Knowledge, or Beauty. The children take the greatest delight in this work, and often want to continue it much longer than the time allotted permits.

Why Frederick Frœbel called the material for this part of the work of the Kindergarten "Gifts" is not known. Some Kindergartners make no distinction between the Gifts and the Occupations, but call all the work of the Kindergarten Gifts. Those who have received the most thorough training in Germany, and have had the most experience in teaching the system, make this distinction. Lest I weary the patience of my readers, I will leave the Occupations of the Kindergarten for a future occasion.

ROUTINE.

One of the important duties of teachers is to avoid falling into a rut of formal routine. This is hurtful both to themselves and to the children. To themselves because it leads them into a habit of lifeless teaching certain to be ultimately fatal to their success; to the children, because it leads them to think that their study has no purpose beyond enabling them to go through their recitations creditably. Children are very prone to fall into the idea that they only study to recite. So many words to be learned from the text-book, and held in mind long enough to be repeated, and that is all, they fancy, that need be expected of them. But the true, conscientious teacher knows that his pupils can make no true progress until he has taught them to study the subject as well as the book. And he knows that to do this effectively he himself must work independently of the book, using it simply as an instrument to aid him, not as a crutch absolutely needed to enable him to walk. The routine teacher is always bound to his book, and without it is like the lame man without his crutch; or, perhaps, to alter the simile, like a vessel without a rudder; for he makes no progress, though he may seem to be advancing. The avoidance of routine is quite essential to true progress in teaching. The children must be taught the practical value of the lessons they are learning; taught that they learn in order to become wiser and better men and women, not merely for the sake of getting over each day's recitation. To accomplish this the teacher must give instruction by topics rather than by the strict order of the book, and himself labor diligently to acquire, for his own use, all the knowledge he can find outside of the book. Every new idea will aid in making the recitation interesting, which is a great help. A routine recitation is always dull. —*Normal Worker.*

THE RELATION OF EDUCATION TO WEALTH AND PAUPERISM.

As civilization advances, the apparatus and operations of every-day life are becoming more and more complicated, and existence more and more expensive, on account of the constantly increasing and multiplying wants of humanity. To-day even the rudest and simplest occupation—farming—is carried on chiefly by machinery. A farm laborer of a hundred years ago, if suddenly dropped down upon a modern farm on a western prairie, could scarcely understand anything that is going on.

Even the plows, the harrows, the cultivators, the drillers, the sowers, the hoeing machines, the mowers, the reapers, the headers, the threshers, the winnowers, the very wagons and carts and harnesses, would each and all be a mystery to him; to say nothing of the more complicated appliances and the scientific processes required to convert the raw products of the field into food, clothing, and shelter. The treatment of the soil, the rotation of crops, the method of preserving and utilizing and marketing the harvests to advantage, all require knowledge.

If this is true of farming, it is still more true of every other department of human industry.—*Dexter A. Hawkins.*

A METHOD OF TEACHING TRUTHFULNESS.

BY M. R. O.

That there is in the mind of every pupil a greater or less resistance to evil tendencies, I thoroughly believe; yet before the teacher can render successful aid to this resistance she must understand the mental condition which makes temptation possible. Fear of consequences simply postponed the gratification of a propensity; it does not divert or strengthen the will. Satan first inclines the mind, then fortifies it with reasons, and I merely give him his dues when I add that he is a very active educator.

We cannot do better than to adapt a method so successfully misapplied to our own uses. I shall not soon forget the sudden gleam of intelligence upon the face of a little fellow, ten years of age, whom I had occasion to reprimand for an attempt to copy from a neighbor's slate, when he saw his act in its true light. After some little talk, in which he acknowledged that he could not learn by copying, I asked, "What do you suppose I gave you that question for, Henry—the answer?"

"I always thought that it was the answer you wanted," he replied.

"There you make a great mistake. The answer is of no consequence to me at all if you do not comprehend it. The example was given that I might see whether you could reason it out or not. Instead of showing me that you understand it, you bring to me Johnny H.'s work, which only proves that Johnny understands the example, if you do not. Now who is going to tell me whether Henry understands or not, if he takes care of his neighbor and neglects himself?"

TRAINING vs. TELLING.

In intellectual teaching, a child may commit to memory the whole rules of English or Latin grammar, and may be able to repeat every example and answer every query contained in the book itself, thoroughly and correctly; and thus far he shows the extent of his instruction or teaching. The child is only under training, however, when he is put to the work of applying these rules to the formation of a sentence in speaking or writing; and it is evident that a person well taught in the rules may be exceedingly ill-trained, or not trained at all, to the practice of speaking or writing grammatically. Ere the child, therefore, is a trained grammarian, his mind must be made to bear upon the subject—he must understand it, and actually apply for himself the rules of speaking and writing correctly.—*David Stow.*

See our special offer for "Canada School Journal" for 1884.

PRACTICAL EDUCATION.

"Business colleges" are springing up in every town—why? Because business has adopted new methods, and the school has refused to recognize them. These schools teach their pupils the operations actually used in the counting-room—the common school does not—hence they have cut themselves off, and created separate institutions.

The great need of our educational system to-day is simplification. We have made many improvements, or at least additions, but have withdrawn nothing to make room for them. We have added drawing and music, and we have done well; we have added the elements of science in some places, which was well; but where have we made room for them in the course already full? Nowhere; and the courses have, therefore, become so overloaded that no teacher can perform his duties to his own or the public satisfaction. Constant addition of new matter, no reduction anywhere, results judged by misleading percentages—and yet people complain of cram! What else can we do? Now, teachers who feel their responsibility should advise their Boards of Education that all this must be changed—not by reducing the quality, but improving it by the exclusion of what is extraneous and unnecessary. We are now teaching too much, and too poorly. The main thing the young child needs, is to learn to read, to write, and to count; and by teaching thete slowly and surely, we best secure healthy mental growth. We give children so much to do that they cannot either read or write well after two years at school, which is quite time enough if properly taught.

We want to hear less of the teacher in school, and more of the pupil. In a properly organized school, much the larger part of the work is done by the pupil; but we have all seen many places where it is otherwise.

Three-fourths of our pupils will go into the ranks of the world's workers, and we must give them what they need.—*Jas. McAlister, Supt. of Schools, Phila.*

MORALITY IN SCHOOL.

The morals of our schools, or rather an essential lack of moral teaching, has afforded material out of which a target has been created, at which noisy and glittering shafts are thrown. The attack is impotent. Even could it be powerful, the certain repulse would contribute still farther to the high standing of the schools. Every statute upon the books pertaining to the conduct of schools makes the moral character and standing of the teacher the first and prominent condition of teaching. It is well understood that only men and women upright before God and of good repute before the world can occupy places upon the platforms of the schools. How is it possible for daily and intimate association with such persons to occur, and moral teaching be absent? Can a woman, good and true, pass daily before a swarm of boys and girls without contributing somewhat of her truth and goodness to the make-up of their characters? Pupils are in the company of these teachers six hours a day. Of the 168 hours in the week, 30 hours are in school; these are not hours of social intercourse of pupil with pupil, but hours of study and instruction; the conversation and deportment are proper and polite.

The morals of the pupil in school can be directed in right only, unless the teacher be vicious and wicked. Who is willing to stand forth and pronounce the latter true? Where in our civilization can be found a better tried, more conscientious and upright class of people than are the women who constitute the great mass of our teachers? The truths that can be told of their self-sacrificing efforts, not only in public but in private instruction, visiting the sick and dispensing alms from their own scanty purses, well put to blush those who, either ignorantly or viciously assail, the public school because of its immorality. Thirty hours a week in school can never stand in place of 138 hours elsewhere. School may supplement, or even in some cases tend to counteract, vicious home-training; it can never, and ought seldom to, supplant it. Harm cannot reach the child during school-hours. When the boy in acts or words seems to be viciously inclined, let the questions be asked, "Where does he spend his time from breakfast until 9 o'clock?" "Where is he during the one and a half hours at noon?" Most of all, "Where and with whom is he from the close of the afternoon school until bed-time?" It is a mistake to suppose that school can guard the morals of pupils without close and hearty coöperative supervision at home. From four o'clock until bed-time is ample time in which to ruin the habits of boys and girls when their whereabouts is known neither to father nor mother. The school takes no charge of the children during these hours; the overlooking belongs to the home. While the teacher's influence reaches far out and into these hours, the power of home is requisite for safety. My official duties bring me in intimate relations with boys and girls. Often I am compelled to know more than I would of their domestic life. Denver is no better nor worse than other cities. All the power of the school authorities cannot save boys and girls from harm when unhealthful influences are permitted to surround them out of school-hours. The schools promise, and are able, to preserve and protect the character of every child committed to their care, but only with the help, support, and coöperation of the home. When teacher and parent are working together in the education of the pupil he goes not astray. —*Aaron Gove, Denver, in N. E. Journal of Education.*

SCHOOLS AND SCHOOLMASTERS OF GERMANY.

BY SEBASTIAN THOMAS, LODI, O.

Since Francke's time the schools of Germany have sustained such a reputation of superiority that they have compelled universal admiration, and have ever since served as models by which the schools of other nations have been organized. But whatever merit of excellence may be claimed for them, their reputation, nevertheless, depends not so much upon the system by which the schools are managed, as upon the character and ability of the schoolmaster. The German schoolmaster is the life and soul of the German school system. Without him, the system becomes a useless code of legislation, prefaced by German pedagogical theories. In fact, any school system is a resultant of teaching power.

It is useless to clamor for school reform so long as nothing is done to improve our teachers, transposing them from the side of mere school-keepers to that of expert, life-long professional schoolmasters. "Das Schullehr-Seminar," the teachers' training school, is that which gives to the German schools their reputation.

In Germany, no one is authorized to teach a public school who has not satisfactorily finished the prescribed course of instruction in the teachers' seminary, and the result is that the schoolmasters and school-mistresses of Germany are all trained workers, everywhere recognized and honored as belonging to a noble profession.

The applicant, to be admitted to the teachers' seminary, must be between 16 and 24 years of age; he must have a certificate from a physician, certifying that he is in good health, and free from any bodily defects that might be a hindrance in his future calling. He must have a certificate from the teacher under whom he prepared for the seminary testifying to his moral character, good habits, industry, and ability. His parent or guardian must present satisfac-

tory evidence of his financial ability to defray the expenses that accrue during the seminary course. He must also pass an examination in arithmetic, geography, history of Germany, elements o natural philosophy, drawing, penmanship, reading, grammar and composition, religion and music.

The course of instruction at the seminary covers three years. The acquirement and proper comprehension of the needed knowledge is aimed at, and an effort to develop the ability to apply principles and an expertness to teach and manage classes is made prominent.

The branches taught at the seminary are:—1. Religious doctrine and Bible history. 2. Pedagogics. 3. German language—grammar, composition and rhetoric, reading and literature. 4. Mathematics—arithmetic, algebra, and geometry. 5. History—German and general. 6. Geography. 7. Natural philosophy, the aim in this branch being to acquaint the student with the three kingdoms of nature, and to enable him to make free use of his knowledge of nature by object lessons in his school. 8. Penmanship. 9. Drawing. 10. "Turnen" (gymnastics). 11. Music—theory of music, vocal, piano, organ, and violin. 12. Instruction in the language of the deaf and dumb. 13. Fruit-tree culture.

After the completion of the course at the seminary, the young candidate must serve two years as assistant teacher in a public school under the supervision of an experienced teacher recommended by the higher school authorities. During these two years, the candidate's fitness for the teacher's profession will be determined. At the end of the two years, he must pass the final examination, and he is then raised to the office of schoolmaster, and receives a "definitive appointment" from the "Kreis Schul-Commission."

He is now a young schoolmaster, with a position for life, and a salary that will never be reduced, but rather increased from year to year in proportion as he raises himself into the higher grades of the profession. The village in which he teaches furnishes him a home free of rent. He is now a fit hero for one of Auerbach's novels. Nothing has a greater influence upon a young man like our young schoolmaster, to fill his heart with warm and generous emotions, than the thought that he has found his life-work, and that he has a spot of earth which he can call "home," wherein he can quietly rest from the labors of the day, and renew himself in body and spirit for better work for the morrow. By the next spring, when the stork has come back again, and the nightingale sings her evening song near her new nest in the hedgerow, Auerbach finds our young schoolmaster guilty of strolling in the moonlight with the Burgomaster's or some other magnate's daughter, and in the next chapter you can hear the church bells ring, and see the entire village flock to the church to witness the marriage ceremony.

This brief romance cannot well be omitted in following the life of a German schoolmaster, as it comes, with a stereotyped accuracy and irresistible certainty, at a particular period of his existence.

The salary of the schoolmaster depends upon the position which he occupies, ranging generally from 1,000 to 3,600 marks. There are inducements all through his professional life, by effort and study, to advance into higher positions and at last end with headmaster. But an examination is necessary for every promotion. As it is among men the world over, you will find two classes among the German schoolmasters; one the moving, active, progressive class, and another the immovables, the stagnants, who are like gateposts, never moving from their place. The latter class I found universally addicted to long pipes and large beer mugs. One must keep to the progressive class to bring back inspiring reminiscences. They are the ornaments of the profession. Their names are found on the programmes of "Lehrervereine," the teachers' associations and teachers' meetings of different provinces and districts.

After a continuous and faithful service of ten years, a small yearly pension is added to his salary. Should he become disabled through sickness or old age, the pension is reasonably enlarged to afford him a quiet and comfortable, though not ostentatious living. If the schoolmaster dies leaving a family, his widow is pensioned and all his children under the age of twelve years. The German Government is wise in thus recognizing the schoolmaster as one of her servants, and in point of importance and usefulness giving him at least an equal place with the soldier. Like the soldier, when duty demands it, he lays down his life in his calling with loyalty to his fatherland. By this wise provision of the Government, the schoolmaster can well remain faithful to his vocation to the end. In his old age the almshouse does not stare him in the face as it would many of us, did we not turn aside in after years and engage in other work which does not leave us dependent upon the capricious and uncertain decisions of a Board of Education.

The German schoolmaster is less nervous and acts more deliberately than the American teacher. He is master of his situation in more senses than one. He acknowledges no other authority than that of his Government, to whom only he is responsible for his conduct. He teaches thirty hours in the six days of the week, for ten months of the year. In the summer he makes pleasant excursions in the beautiful German forests with his pupils, to whom he is a life-long guide and father. The following incident beautifully illustrates the love and faith the German children bear to a kind teacher. One day while walking in Darmstadt with a venerable old man, the head-master of the girls' school of the city, we met a young girl with a basket on her arm on her way to market. As soon as she saw us, she crossed to meet us, her fresh round face covered with a pleasant smile. The old man put out his hand, she eagerly grasped it, and with tears starting to her eyes she exclaimed:—"My dear teacher, I am so glad to meet you. I came this way yesterday, but did not see you. I have a new place, and the people are very kind to me." "I am very glad for this," replied the old schoolmaster, "do your work well, my child, be a good girl, be pious, and the dear God will not forget you." With these words he dismissed her. He then said to me, "She was one of my pupils. She graduated last Easter day. Her parents are dead, and so she looks to her teacher for guidance and advice. She went recently to a new place to work, and she was very anxious that I should know about it."

His vacation in the summer the schoolmaster spends in a trip to the Alps or other places of romantic scenery. His physical build shows that his disposition turns to the sunny side of life, and that he gets at least par value of enjoyment out of life. The cares and perplexities of his profession do not bear down upon him in spasmodic visitations, but are diffused and borne calmly through a long and happy life.—*National Teacher.*

ERRATA.—In the article "Professional Training of High School Teachers," in the October JOURNAL, the following errors were overlooked in the proof-reading:—

Page 211, for "Formal School" read "Normal School," "skilled requirements" read "skilled acquirements." Page 212, for "insufficient persons" read "inefficient persons," "this work" read "their work." Page 213, for "fit thousands" read "fit themselves," "admirably characteristic" read "admittedly characteristic." Page 214, for "County Model School" read "County Model Schools."

Col. Parker's ***Talks on Teaching*** will be reprinted in coming numbers of the Canada School Journal.

Examination Questions.

GRAY AND "THE ELEGY."*

LIFE OF GRAY.

1. In the Life of Gray give dates for the following events and associate them with the nearest epochs of importance in British, European, or Literary History; *i. e.*, fix each by reference to great wars, great statesmen, great authors, or great books:— 1st, his Birth; 2nd, his Eton Days; 3rd, his University Course; 4th, the Composition and Publication of the Elegy; 5th, the Publication of "The Bard"; 6th, his Appointment as Professor of Modern History; 7th, his Death.

2. Give short notices of Gray's personal and literary friends.

3. Describe Gray's personal character and literary tastes, and illustrate these traits by references to his life and writings.

4. Compare Gray with the authors whom he most resembles as: (1) a Subjective, (2) a Natural, (3) an Artificial Poet with the "art to conceal art."

5. Sketch the line of thought in the Elegy, introducing into your epitome briefly apt quotations.

6. Quote from the Elegy passages in which the thought is similar to that in each of the quotations cited below:—

1st. "The day is done and the darkness
Falls from the wings of night."—*Longfellow.*

2nd. "Vital spark of heavenly flame!
Quit, oh quit this mortal frame:
Trembling, hoping, lingering, flying.
Oh the pain, the bliss of dying."—*Pope.*

3rd. "Sed omnes una manet nox
Et calcanda semel via leti."—*Horace.*
(But the one night awaits all and the path of death must be trodden once.)

4th. "Pallida mors æquo pulsat pede pauperum tabernas
Regumque turres."—*Horace.*
(Pale-faced Death knocks with impartial foot at the hovels of the poor and the palaces of kings.)

5th. "The Roman gathered in a *stately urn*
The dust he honored."—*Howe.*

6th. "With lisp of leaves and ripple of rain."—*Swinburne.*

7. Name the figures, explain the points of resemblance in all similes, and illustrate the allusions in:

(*a*) "The *curfew* tolls the knell of parting day."
(*b*) "Each in his *narrow cell* forever laid."
(*c*) "The breezy call of incense-breathing morn."
(*d*) "Let not Ambition mock their useful toil,
Their homely joys, and destiny obscure."
(*e*) "If Memory o'er their tomb no *trophies* raise
Where through the *long-drawn* aisle and *fretted* vault
The pealing anthem swells the note of praise."
(*f*) "Storied urn"—"animated bust"—*mansion.* (Explain.)
(*g*) "Ample page"—"rich with the spoils of time"—"growing virtues"—"uncouth rhymes."
(*h*) "Or heap the *shrine* of Luxury and Pride
With *incense* kindled at the *Muse's flame.*"
(*i*) "Ev'n from the tomb the voice of Nature cries" (How?)
(*j*) "And read their hist'ry in a nation's eyes."

8. Quote the Epitaph in full, then explain its sentiments and similes in detail.

9. Enumerate the advantages denied and temptations spared to the "rude forefathers of the hamlet" by their destiny obscure.

10. Give two examples each of onomatopœia, alliteration, antonomasia, and aphæresis, explaining in what each figure consists.

Time—2½ hrs. Composition (50) judged from the style of the answers.

Most teachers lack enterprise to strike out anew, they prefer to cling to the wreck year after year. Let your heart counsel you; take courage. Determine to improve your condition. Yield to no discouragement. The past year may be a stepping stone to a prosperous future.—*N. Y. School Journal.*

An exchange well says that "men who are afraid of dying from overwork of their brains, would commonly improve their prospects of a long life if they would work their brains more, and worry less about their brains."

* The above has been kindly furnished by J. A Clarke, H. S. Master, Smith's Falls.

Practical Department.

* SCHOOL HYGIENE.

There are few subjects of as much importance in their bearing upon the welfare of the people of this Province in the near future as that of "School Hygiene." I am therefore glad that it is one of the subjects which you have selected for discussion at this meeting of your association. I trust that the remarks which I have been requested to make will be taken as merely the opening of the discussion, that others will follow me, and that we shall have an earnest consideration of the questions taken up. I suppose it is hardly necessary for me to prove that, as a general rule—not in exceptional instances merely—boys and girls, as well as their teachers, are not improved in health by their school life; in other words, that there is plenty of room to struggle after the ideal hygiene conditions in connection therewith. Were it necessary to prove this I would do so by pointing to either teacher or pupil at the close of school term and again at the close of vacation. I need only point: you have seen the contrary pictures often enough to be able to recall them to your mental vision. Shall we not then inquire whether there are changes which we can help to bring about to improve the condition of school life, and what they are? And shall we not one and all do our part and do our best to bring them about? I feel that if any good is to come from a discussion of this subject, it must be by each one of us taking hold of it in this practical way; and I do believe that it will be so taken hold of. One of the first things then that we shall enquire into is the condition of the

AIR IN OUR SCHOOLS.

It is a well-known physiological fact that a healthy adult man exhales $\frac{6}{10}$ of a cubic foot of carbonic acid per hour. It has also been found by experiment that six parts of carbonic acid in 10,000 of air is all that can be breathed with proper regard for health: *i.e.*, 2 parts in 10,000 in excess of the amount naturally contained in the atmosphere. A very simple calculation then tells us that to keep the air at a healthy standard 3,000 cubic feet per hour must be supplied. It has further been found that with the ordinary appliances for ventilation, and taking into consideration our climate, three times in an hour is about as often as the air in a room can safely be changed. This, then, would require that a room should be so capacious as to give 1,000 cubic feet of absolute space to each individual adult; this, in a room twelve feet high, would be a floor space of a little over nine feet square. But it may be said that children do not require so much because they are smaller, and there is not so much blood to be oxidized. True, there is not so much blood, but remember that there is more growth and waste in proportion; their blood circulates more frequently, and their respirations are more frequent; and that their organizations are more delicate and susceptible to unhealthy influences. Hence we cannot safely deduct much from the amount of fresh air, and consequently from the air space, required by children. I am aware that the army regulations only allow to the soldier 600 ft., and should we ever give our children less than the hardy soldier? I now ask you to tell me in the discussion which will follow in what proportion of our schools we will find an air space of 1,000 cubic feet per individual; and to tell me also what is about the average space that is to be found. I hope that we shall get answers to these questions, as the presence of so many who are able to answer is an opportunity of which I feel sure the board with which I am connected would desire to avail itself in its labors in regard to this subject. Having

* A paper read at the Ontario Association by Dr Oldright, M.A., July, 1888.

settled the average amount of air space, the next question to be put is, Are there appliances for changing the air in it the requisite number of times to give a product of 3,000 feet, or something near that amount? If not, what is the result? It has been found as the result of actual analysis and experiment that air containing eight or nine parts in 10,000 of carbonic acid produces nausea, loss of appetite, headache, irritability, and other symptoms. Are your little scholars ever peevish and fretful? I must not ask whether children of an older growth ever become so—no wonder if they do. It is hard to get exact statistics of mortality in connection with various degrees of vitiation of air by respiration, as other unsanitary conditions are often associated, but the above results were proved to be solely attributable to the vitiation of air by respiration in the several degrees named. Of course, mortality statistics associated with an indefinite amount of air vitiation are to be had. We now come to the consideration of the

MEANS FOR CHANGING THE AIR

in the school-room—the means for getting in this "1 kermoddity," and we shall find that there are two more little modifications in the "frame" which I would not make for fear of spoiling its vigor by too much matter of fact, but to which we must when we come to the matter-of-fact subject of ways and means allude. Whilst the air "doesn't cost nothink" "out-dores," it costs as little (not much in proportion to its worth) to get it into the right place, and "git it warm;" and whilst "it ain't much trouble to make a hoal," it requires much thought and time and trouble (and this all means money) to get the "hoals" in the right places for different seasons and under varying circumstances. And it is this question of money combined with a want of proper understanding of the consequences, and of the whole subject indeed, that stays the hands of those who have not yet appreciated the fact that the question at issue is of the value of children's and teachers' brains and bodies *versus* the cost of a few ventilating tubes and the ingenuity required to devise and prepare them—*plus* the cost of fuel and enlarged school-rooms.

First, then, what should be the size of the "hoal" or holes—for it wants some to let the bad air out as well as to let the good air in. This will depend upon the rapidity of currents of air that may be borne, and then again upon whether the air is warmed when introduced; but as a rule about five feet per second may be borne. There are 3,600 seconds in an hour, and we want 3,000 feet of air in that time, *i.e.*, $\frac{5}{6}$ of a foot per second for each individual; this with a current of five feet per second will require one hole per individual to be $\frac{1}{6}$ of a square foot, or 24 square inches; and the same to let out the air. If heated it will have to flow more rapidly. and it may more safely be allowed to do so. Whilst I am speaking of heating, let me dispose of a popular fallacy. I think it is generally supposed that in winter people can more safely crowd together and do with smaller air space than in summer. Unless hot air is heated before it is introduced the reverse of this is true; the air has to "git warm," as one poem has it, and consequently cannot be changed so frequently unless we are to be chilled by it.

The next point in connection with the ventilation of the school-room is the relative position of the inlets and outlets. These relative positions will vary much according to varying circumstances, amongst which may be mentioned the shape and size of the room, the season of the year, the mode of heating. And let me here say that the ventilation and heating of any room must always be considered together. I shall not be able, in the compass of this general paper, to consider minutely all the varying circumstances alluded to. For a fuller description of details of some of the plans to be resorted to I shall refer you to one or two papers within your reach. Some others we may consider somewhat in detail, and there are certain general principles which, if strictly remembered and carried out, will help us much in the consideration of details in each special case. There are four of these general principles that must never be lost sight of:—1. The air brought in must be distributed throughout the whole of the breathing space. 2. It must be of a suitable temperature when it comes in contact with the inmates, and of a suitable degree of humidity. 3. It must be pure. 4. Hot air is lighter than cold. It is of great importance to bear in mind these few principles; it will be found that every defect in ventilation is due to a violation of some one of them.

In many of our school-rooms the feet are in Greenland, whilst the head approaches the torrid zone. The light hot air is at the top of the room, the colder strata below. The air may thus be in a stagnant condition, or an attempt may be made to let the heated and supposedly impure air out by ventilators at the top. And now what happens: in rooms heated by stoves just as soon the air gets enjoyably warm it flies off and away, the lower part of the room being always uncomfortably cold. Following out the principles which I have expressed above, sanitarians in various places seem to have simultaneously hit upon a modification of the Ruttan method, which may be expressed thus:—Cold pure air is conducted so as to impinge upon the stove for heating surface; here it becomes heated and ascends. Meanwhile at the sides of the room and close to the floor are outlets, sometimes funnel-shaped, taking off air from the floor line by means of pipes passing up through the room and connecting with the stovepipe (of which I here show a sample), with the chimney, or with the outside air. The air heated by the stove rises to the ceiling; cooling, it gives way to that which, expanding beneath it, rises to take its place, falls over in fountain form, gradually settling down till it is drawn down and out by the outlet shafts. This plan is illustrated and described in a paper by Dr. Cassidy, to be found at pages 150-1 of the First Annual Report of the Provincial Board of Health, to which any person in this audience can readily refer. You will see that a constant circulation of air is thus carried on. I now proceed to show you a series of diagrams which came to my hand most opportunely whilst preparing this paper. They illustrate a series of experiments by an architect, Mr. Warren R. Briggs, and are published by the State Board of Health of Connecticut. They show how much more a feature than is generally supposed are differences in the relative position of inlets and outlets in providing for the distribution of fresh warm air to all parts of a room. (See reprint in New Hampshire Report, pages 162-167.) I regret that I have not time to enter into other methods of winter ventilation, and modes of introducing and distributing heated air.

I must now turn to methods of ventilating in summer. Even in summer in Canada the air is not often of as high a temperature as our bodies, 98½° F. It is generally much cooler, and becomes heated by contact with us. Hence, put outlets in the top and it will rise to them and away. Then "make a hoal, and all the air will come in of itself." But the "hoal," if not of a particular kind may sometimes allow the air to blow too directly on the teacher's neck, especially if it is already blowing hard out of doors. Hence, the teacher may not despise a few hints as to various devices for breaking up a current of air or directing it above his head, especially if the devices be of such a nature that he can at once introduce them himself.

1. One such may be adopted by raising the bottom sash of the window and filling up the opening with a piece of board. You will not see much gain from this until you remember that a broad air duct has been thus constructed, opening upwards between the two sashes, and directing the current of air upwards.

2. Double panes with a slit at the lower part of the outer and at the upper part of the inner will act in the same way.

3. So will a board set in the frame an inch or so under the sash.

4. Boards sloping upwards from the top of the upper sash may be used.

5. Perforated boxes running around the room, and having connection at one or two points with the outside air, may diffuse small streams of "this commodity" from their numerous perforations.

6. Wire screens and other contrivances will be found described in some papers which will find place in our next annual report.

The third principle that I laid down, that the air must be pure, it might seem almost superfluous to mention, and yet how often does it happen that the air supplied to our rooms—school-rooms as well as others—is taken from halls (where it has already done its part), from cellars, and dirty yards, and often in addition made to traverse flues containing the accumulated dust and rubbish of months and years. I can point to several public buildings in Toronto where this and worse than this has taken place.

It would be very interesting to take up the various procedures for determining the purity of air and sufficiency of means of ventilation, but time will fail us, and I will merely show you a little portable instrument for recording the velocity of currents of air, and which would be very useful to those charged with the sanitary inspection of schools.

FIRE ESCAPE AND READY EXIT.

Before leaving the architectural part of my subject I should refer to the other closely connected precautions for the saving of life. If I mention the Sunderland disaster and the fire panic in New York you will know what I mean. Good broad stairs, doors opening widely outwards, and efficient fire escapes, are some of the requisites needed. And I would desire to speak in terms of commendation of the action of some of our school authorities in exercising the pupils in fire drill. Closely connected with the subject of pure air in and around school buildings is that of the

DISPOSAL OF SEWAGE,

but as I have caused to be placed in the ante-room a number of copies of a pamphlet on that subject recently issued by the Provincial Board of Health, I will merely ask each member of your association to take one, and read such parts of it as will apply to his own locality, and I would especially call the attention of school inspectors, principals, and trustees to pages 6 and 17. If they will not adopt the suggestions there laid down I would at least ask this —that if they have in the past been so thoughtless as to subject to disgust and inconvenience those who cannot from motives of sensitiveness allude to the matter themselves, they shall, now that their attention is called to the matter, provide a remedy, and save in this respect much suffering and seeds of future ailments. In regard to

DRINKING WATER

there is not much to be said under the head of school hygiene that will not equally apply to hygiene in general. One thing, however, the teacher should look after for himself and the pupils, the condition of the filter. Filters are often used for months, and even years, without a change of their solid contents, except by the addition of a large amount of organic matter retained in the filter, and which becomes a source of danger. I believe that in very many instances teachers and other school authorities are doing their best to battle against the spread of

CONTAGIOUS DISEASES,

and I feel sure that many of you are often annoyed and made anxious by accidentally finding out that some hidden source of danger has been lurking unknown to you in the midst of your little community. The only remedy for this will be based upon the carrying out of the provisions of the Public Health Act of 1882. By that Act it is incumbent on every householder, and on every physician under whose charge a case of infectious disease dangerous to the public health has come, to report the same at once to the health officers. Where there is no specially appointed board of health the members of the municipal council are the health officers. But many of the latter would not know what to make of it if they found disease reports coming in to them. Hence it is no wonder that the reporting of contagious diseases is so largely disregarded. Many of our municipalities are, however, waking up, and in several the law is strictly complied with. The Provincial Board is endeavouring to have a local board established for every municipality or group of municipalities, and it trusts that you will lend your educating assistance and influence in that direction.

A greater discrimination should be used by some in dealing with the exclusion of persons associated with cases of contagious disease. I have known instances where the brothers of typhoid patients have been excluded from school, a proceeding quite unnecessary; whilst on the other hand the brothers of scarlet fever patients, and even the patients themselves, have returned before the peeling off of the skin has been completed. Do not let any person or thing associated with a scarlet fever patient return to school till you have the certificate of the medical attendant that all necessary conditions and precautions consistent with disinfection were obtained.

I believe that

DEFECTS IN VISION AND HEARING

often get our school children into trouble when they do not deserve it, whilst, on the other hand, some unsanitary provisions have much to do with producing such conditions. These, however, have been considered in various quarters of late, as also has the effect which ill-made seats have in producing stooping, contracted chests, and even

SPINAL CURVATURE.

With the subject of dress it may be thought by some the teacher—at any rate the male teacher—has not much to do. Well, perhaps only in one respect, which I shall mention in order to put teachers on their guard. I have seen children very ill, and one at least nearly lose his life, from being caught in a storm and obliged to sit with wet jackets on. Sometimes, too, the thoughtless chicks may have been indulging in a good wading time in a neighboring creek in order to test a pair of new boots. Will the kindly teacher think it too much trouble to save his, or her, little pupil's life by an ounce of prevention offered in this direction? One more point and I am done. If school hygiene, or hygiene in general, is worth anything, why not have it taught more extensively in schools? You may say "What, after just speaking of the burdensome multitude of subjects at present being learned, or attempted to be learned?" In reply I would bring this paper to a close by a quotation expressing my position on this subject, from a paper by Prof. Austin, of St. Thomas. I may say in explanation that St. Thomas was at that time much exercised over the question of establishinga system of sewerage. Listen to Prof. Austin, himself an instructor of youth:—

"But even should it be shown that something now on the school programme would have to be omitted, we do not think this should prove an insuperable objection to the introduction of the instruction and training desired. The branches of the great tree of knowledge have so multiplied in this day of scientific research that an eclectic course of study is a necessity, and the demand of the age is for the practical as distinguished from the theoretical and ornamental. Now what could be more directly and universally practical

than the great laws that govern us in our physical relationships and the rules that should govern us in everyday life? If, then, a selection must be made, why not take the most intensely practical subjects? For of what use, so far as this life is concerned, is culturing so highly the mind if the body is too weak to bear the strain and pressure of life's battles? Of what use garnishing the jewels till their resplendent lustre dazzles all beholders, if both casket and jewels so soon are to be thrown into the pit? Why be so anxious to increase the size and value of the cargo, if the vessel is so poorly built that the storms will surely wreck her in mid-ocean? Now we are very much mistaken if this instruction and training for which we plead is not really more practical and important in every day life than some of the subjects usually found in the curriculum of the school. Let us take, for example, ancient history. Outside the professional walks in life, of what practical value is the amount of ancient history usually received at school? Leaving out of consideration the mixture of myth and mystery, of truth and fable, of error and exaggeration usually found on the historic page, can any one for a moment doubt that hygiene and physiology would be of more practical use to nine-tenths of our pupils than this branch of study? The very many questions which ancient history presents for our study and investigation may be interesting enough to the historian and pleasant enough as a pastime, but to us in this practical age are not of as pressing importance as more recent problems. Whether Thebes had 100 gates, whether Romulus did really found Rome, whether Alexander untied or cut the Gordian knot, whether the vision of Constantine was an illusion or a reality, may have been burning questions in the early ages, but after a lapse of a few thousand years they have lost something of their freshness and interest, and hardly arouse as much enthusiasm in St. Thomas as the burning question of the great sewer."

In regard to mental rest and exercise you have more than once listened to your old and eloquent friend Dr. Workman; that is enough said, except this, that I have always less fear of allowing children to occupy and amuse themselves with letters and slate pencils at their own sweet pleasure, even though it be at an early age, than I have of burdening them with a compressing multitude of studies and long tasks after the commencement of what would be called by some the legitimate school age.

You have in your midst, too, many warm advocates of the further extension of the Kindergarten system. Would that I could speak of the part it plays in the interchange and combinations of mental and physical exercise, rest, and recreation. A few words now regarding

PHYSICAL AND MENTAL EXERCISE,

rest, and recreation, should be said. I fear that into the schools the tendency has crept down from the colleges to run athletics mad. I have seen children with weakly organizations tempted by the incentive of a prize to risk their safety in a race or other athletic contest, and I have felt sorry for their little pale faces and fluttering hearts.

I noticed a year or two ago that in the schools of Lindsay the ten minutes' recess was abolished, or to be abolished, and I was very sorry to see it. Oh, what a stock of fresh lung-expanding and sprightliness over the pupil lay in that ten minutes to carry him through the work of the next hour, and if the teacher can only lay aside his dignity for ten minutes and mingle in the sports of the boys it does him good, both in himself and with the boys, for the latter, without losing their respect, find out that the master really has interests in common with then, and was once a boy himself.

Speak a word in season for the "Canada School Journal."

JAY GOULD'S LIFE.

Senators Blair and Call, of the Senate Sub-Committee on Education and Labor, listened to information on labor and capital which Mr. Jay Gould had been invited to give. In reply to a question asked by Senator Blair, Mr. Gould said:—

"I was born at Roxbury, Delaware County, New York State, May 27th, 1836. My father was a small farmer who kept a dairy of twenty cows. I was the only boy in the family; so I helped my sister in milking the cows both morning and night, and drove them to and from the pasture. As I was obliged to go barefoot during the summer, and often had my feet pricked by the thistles about the fields and pastures, I concluded I didn't like farming, and so I one day asked my father to allow me to go to a school which was situated about fifteen miles distant from home. He replied that as I wasn't worth much about the farm he would give me my time. I found a blacksmith near the school who would board me if I would write up his books at night. I was then about fourteen years of age. I attended school for a year and then obtained a clerkship in a country store, where I was obliged to work from 6 a.m. to 10 p.m. By this time I had acquired a taste for mathematics, especially surveying. By getting up in the morning at 3 o'clock and studying until 6, I obtained a good knowledge of the latter branch, and at length started out to find employment as a surveyor.

"I made an engagement with a man who was making a map of Ulster County at a salary of $20 a month and expenses. When he sent me out with my instruments to survey a portion of the country he gave me a pass-book and told me to get trusted for my board at the several places through which I passed, and he would pay the bills. I soon found that the people were not willing to trust my employer. The second day out I presented my pass-book to the man who had entertained me, and told him to put down the expense. He looked at me very angrily, and then said: "I guess you don't know your employer. He's failed three times already. You've got money and I'm going to have it." This frightened me, but I managed to explain to him that I didn't have a cent, and in proof of the statement I turned my pockets inside out. Convinced of my honesty, he said he would trust me until I could pay the bill. I thanked him for his consideration and left the house. As I walked along the road I felt as if my heart would break with grief. I could see nothing ahead but failure and misery. In my despair I went into the woods and had a good cry. Then I got down on my knees and prayed.

"When I arose," continued Mr. Gould, "I had made up my mind to go ahead. Late that afternoon, having had nothing to eat since morning, I called at a farm-house and received some bread and meat from the hands of a kind-hearted woman. Just as I was leaving the yard her husband called me back and asked me to fix a north and south line by which the time of day might be determined. I did so, and received, after paying for my lunch, seven shillings. It was the first money I had earned since I started out, and, of course, it gave me new courage and confidence in myself. The man for whom I was working at length failed. I proposed to the other young men who were employed in the survey that we go ahead and complete the map. We did so, and when the work was done I sold out my interest in the map for $500. Soon after I made maps of Delaware and Albany counties, and in this way succeeded in accumulating $5,000. While surveying I became acquainted with a gentleman named Zadock Pratt, who took great interest in me, and invited me to go into the tannery business with him. Mr. Pratt sent me out into the western part of the State, where I found a fine hemlock growth. We put up a saw-mill and blacksmith-shop, and were soon doing a large lumber business. Afterward I bought out

my partner and continued operations for some time. Just before the panic of 1857, I sold out my business to Charles M. Leupp, of New York.

"When the financial crash came everything went down very low. Finding that Rutland and Washington Railroad bonds were selling at 10 cents on the dollar, and believing that money could be made by purchasing them, I left everything else and went into railroading. I was president, treasurer, and general superintendent of the road for a long time. I made a study of the business, and succeeded after a while in bringing the stock up to par."

INDUSTRIAL EDUCATION.

The training of the public schools in this country, though a far surer preventive of pauperism and crime than that of the parochial schools or the churches, is yet very far below what it ought to be and may easily be made to be. The instruction deals too much with the abstract, and too little with the concrete; too much with words and names, and too little with ideas and things. The child should be taught to memorize less and to think more. The elements of industrial education could be taught with great advantage in our public schools, as they are and have been for years in the public schools of Germany. This would enable the children to do something as well as merely to know something; and would tend directly to prevent and reduce pauperism, by qualifying them on leaving school at once to begin earning a livelihood.—*Dexter A. Hawkins.*

WHISPERING.

Many teachers are fretted and troubled by the whispering of their puplls. They ask, "How can we stop whispering?" Suppose we put this in another aspect, and ask, "How shall we prevent their wanting to whisper?" The usual way is to have a rule against it, and a penalty. So much is deducted from their standing, or they are made to stay in at recess or after school. But let the teacher give the pupils employment, and then they will not be likely to whisper. "An ounce of prevention is worth a pound of cure." It is not well to make a rule against whispering Let the pupils know that you do not want it done, and then try the effect of employment. At all events, do not consider the scholar as a reprobate if he will whisper. Reflect what you would do under the same circumstances; reflect further, that teachers are very apt to whisper when together. And if a pupil whispers, it is not absolutely necessary to rap on your desk and look crossly at him. The world will not fall to pieces if one or ten whisper each day. Be brave, then, and do not be frightened if one whispers.

Let us see how it can be stopped, for a school-room that is full of noise and confusion is an unsightly spectacle. Noise and study are incompatible. Explain this to the scholars, and enlist their aid in the matter. Make them find that you want to make the room pleasant; that you do not want them to be troubled and harassed by others interrupting them. These plans may be tried to accustom the children to abstain from speaking:—

1. Ask them to go without whispering for a half-hour, or hour, and at the end of that time ascertain who have succeeded, letting them raise their hands. Commend their success; give them a little rest, and then let them try another period.

2. Have a period set apart for speaking, by having a large card marked "Study Hour" on one side, and "Needful Speech" on the other. At the end of each hour turn this card.

3. Keep an eye on the noisy ones and give them a separate place to sit, not so much as a punishment as to prevent their troubling others.

4. Keep a record of those who whisper much, and class them as "disorderly," and lower their standing for good behavior. This needs to be handled with care.

5. Detain those who are noisy, and try to influence them by a kind, personal talk.

6. Appoint some of these as monitors.

7. Give extra employment to those who seem to have time to whisper.

8. Make a great distinction between those who whisper about their studies and those who whisper about mischief.

9. Dismiss in order of orderly conduct as you have noted it—saying I will dismiss in the class—(*a*) "Those who have seemed to me to be successful in managing themselves; they may stand—James, Henry, etc., etc." After dismissing these—(*b*) "Those who seemed to me to be moderately successful; they may stand—William, Mary, etc." After dismissing these—(*c*) "Those who have had the least success, these may stand—Susan, etc." Then dismiss these.

There are many other methods, but the above carefully applied, and followed by close personal attention, will generally suffice.—*N. Y. School Journal.*

NORMAL SCHOOLS.

Prof. John Ogden, Fayette, O., believes:—

1. In sound academic learning as the only basis for successful professional practice in teaching.

2. That this should, as far as possible, be acquired in the public schools and colleges with which the State is liberally supplied, and for which abundant provision has been made.

3. That since this is not done in the majority of cases, owing in part to a misconception of the duties of normal schools, they are compelled to do this academic work in connection with the professional training.

4. That no amount of cramming for County Examinations will make good teachers; but that this interferes, rather, with comprehensive professional acquirements and sound learning.

5. That to teach well requires more than a mere knowledge of the branches, as such, however extended this knowledge may be. That knowledge must be vitalized and exalted by spiritual force and native intelligence before it becomes efficient as an educational agent.

6. That in a professional course for teachers, such as should be established in every normal school, the first thing to be studied is man, in all his possible relations, both as a physical and metaphysical being; also as to his antecedents and history and his possible future.

7. That the various kinds of knowledge or science and all employments and activities must next be studied, or in the same connection, not as an end, however, but as a means for producing an end, to wit: making man what he ought to be.

8. That upon these two great principles or departments of professional knowledge, to wit: Man as an end, and knowledge as a means, the only safe and consistent methods can be established, they being self-evolved, and not superinduced.

9. That the Kindergarten system as developed by Frederick Frœbel suggests the true method of treatment for childhood; that the law of self-activity is the only law of harmonious development; and that the same principles and practices so efficient here can, with variations to suit age and circumstances, be carried into every school and college in the land.

EDUCATION IN ICELAND.

The correspondent of a Swiss journal thus writes as to this subject: "One would certainly have no trouble in finding among the corps of teachers some men of great merit, even erudite, whose obscure and modest science is devoted to study, and to the good of their country, without care for renown or the reward of this world. I once asked a young Icelander who undertook the instruction of children who, from the distance of their dwellings or the poverty of their parents, could not attend school. 'At the age of seven years,' he replied, 'all our children know how to read, write, and cipher; among the poorest fishermen of the coast, there is not one who has not received what may be called a good primary education. Our mothers are our teachers, the *boer* (Iceland house) our schoolroom. The nearest pastor has an oversight of the progress of the children, and that one who does not furnish the proof of a sufficient education would not be admitted to confirmation. An Icelandic mother would not survive the chagrin of seeing her children refused by the pastor, and not a single example is known of it.' Ask the first child you meet who it was that taught him or her the history and geography of their country, the names of the birds and flowers, and the invariable reply will be *Modremin*, my mother. Touching in its simplicity and grandeur, and revealing truly the character of this sympathetic people! At twenty-five the young man is profoundly religious, chaste, gentle, and honest as on the day when at his mother's knee he was spelling out his first lesson. Can one be astonished after this that in Iceland there are neither soldiers nor cannon; that the art of robbing one's neighbor of his purse or his land is unknown: that one sees there no police nor prison; and that for centuries one has lost the memory of every kind of crime?"

METHOD AND DISCIPLINE.

The Rev. C. D. Du Port (Her Majesty's inspector) opened a discussion on this subject by a very interesting and amusing address. His lively manner kept his audience in full expectancy, and his witty sallies were received with peals of laughter. He began by saying that he had much praise to award, and very little blame to remember, of the general discipline of the schools with which he was connected. He spoke not only of the Church schools, but of all the other elementary schools which he visited side by side with them. When he spoke of discipline he did not mean mere absence of disorder, or merely enforced order. He meant this kind of thing (quoting the note to Article 109 in the Code). He was not an advocate for the total abolition of corporal punishment, for one reason, because it was a safeguard against passionate correction. He hated the promiscuous box on the ear, he detested the passionate blow; he valued, in its proper place, the good old-fashioned cane. Let it be honored as the "Court of final judicial appeal," for "familiarity bred contempt." Every time it was used, as Mr. Mundella said, an entry should be made in the log-book. Teachers should not be afraid of the clause in Mr. Mundella's little bill. It only asked them to give the cane judicial dignity as a last appeal, and that its deeds might be emblazoned in future history. Having pointed out that there were other punishments besides the cane, he said that discipline must be more than punitive if it was to create what the Code had expounded as an honorable and earnest school. There must be more than faults checked and punished; there must be training—virtues raised up and developed. Let them aim at the discipline of influence. The very instant the punitive terror was removed, the boy would be over the traces f there was no other influence at work to prevent a reaction. They must work upon child will, child spirit, child self-respect, child *esprit de corps*, and child gratitude. They must not kill or deaden the boy's spirit, but guide, train, and use it. Their discipline must be a friend to the children—they must play with them, work with them, and work for them; and then they would work with them and for them. Let the children fear, but not them (the masters and mistresses.) Let them fear conflict with them, which was a very different thing. Now as to "method." His opinion was that they now had too much method by half. The danger was lest technical methods learned by training should usurp the place of methodical work—lest method, technically so called, should supersede teaching. Common sense and human sympathy were the two grand methods which never failed. Without them all technical methods were dry and profitless; but, if they worked upon those double lines, their technical methods would prove a vast help. Having cleverly held up to ridicule what he called the "A, B, C," the "form and color," and the "model lessons" manias, he said they ought to feel as free as possible in the use of their technical methods. Let them try to get fun out of the lesson, and correct the children by banter rather than scolding; let them try to forget all their technicalities in zeal, and give their enthusiasm the fullest play. Economy of time was the best method after all. In the question of home lessons he hoped they would show some human sympathy and kindness. Let the children take home their reading-book, and master the sense of a chapter; and let them come in the morning, not perfectly acquainted with it, but ripe to ask questions, and so bring teaching from the teacher. Let the technical methods of their work be their slaves, and not they slaves of them. They should see that the wider methods of life were in full working order. Let their zeal bring into play common-sense plans of every available and varied kind. Let their ambition be to become the successful human trainers of human growth; let them ever remember all that goes to make up human childhood, its instincts, its weakness, its cravings, its ambitions; so should they by sensible, and sympathetic work be, through human children, of lasting benefit to human society.—*School Guardian.*

PRACTICAL EDUCATION.

The perennial demand for "practical" education in the public schools is just now exceptionally strenuous. At a recent conference of teachers and school committees this question was discussed: "How shall we educate our pupils so as to fit them for the practical duties of life, such as farming and the various industrial pursuits?" This is a fair statement of the problem as it is urged in many quarters.

In trying to solve it, everything depends on the meaning of that short word "fit." If by "fitting" pupils for farming and other industrial pursuits is meant giving them technical instruction in agriculture and the various handicrafts, then it is doubtful whether the public schools can attempt it. It is true that, in some parts of Austria, small "school-gardens" have been established in connection with many of the public schools, in which most of the common grains and other plants of the country are cultivated, the names of which are taught to the children, thus giving them object-lessons in botany, by which they become somewhat familiar with the flora of their own neighborhood and learn something also of the structure and habits of plants. As much as this might be done in connection with many of our suburban and country schools. But this would go but a little way toward fitting boys to be farmers. In the public schools of Boston girls are taught sewing, and this branch of

"practical" education might well be taught in other places. But it is not easy to see how our schools can undertake to give any instruction in the methods of agriculture, or of those other industrial trades by which men and women earn their livelihood.

It might be possible to establish in every considerable town a public workshop, into which boys could go out of school-hours and learn the use of various mechanical tools, under the instruction of a competent mechanic. Most school boys in the cities and larger towns have much spare time on their hands, which might well be put to some such use. Perhaps a portion of the funds provided by taxation for public schools could be profitably expended in furnishing such schools as these. To do this would require legislation in most of the States; but it is open to any benevolent gentleman to offer the boys of his own town such an opportunity. If it should be appreciated and improved, the public authorities might be led to adopt the same plan. Beyond some such simple provisions as these, we do not see how industrial education can be furnished to the pupils of our public schools. The handicrafts are so many, and their methods are so constantly changing, as civilization becomes more complex and the practical arts are multiplied and modified, that it would be quite out of the question to teach them all, even if skilled instructors could be obtained, which is equally out of the question.

Besides, it is hardly the function of public schools to impart any kind of special or technical education. We cannot "fit" boys to be ministers, or doctors, or lawyers, or farmers, or carpenters, or shoemakers; we cannot train girls to be artists in pigments, or in music, or in millinery, or in cookery; all we can undertake to do in our public schools is to train the intellect and develop the character of the pupils so that they shall be intelligent, industrious, contented, and virtuous citizens. It ought to be possible to give the pupils of these schools a mental and moral discipline that shall "fit" them for any calling in life, and not more for one honest calling than for another.

The thing to be first sought, and the thing most often neglected in our public teaching, is the development of a sound character in the pupils. The State cannot teach religion, but it can require its teachers to enforce the virtues of industry, self-reliance, truthfulness, purity, honesty, justice, kindness, and courtesy; it can make the inculcation of these virtues a chief part of the teacher's work. The education that neglects or undervalues morality is worse than worthless; it "fits" the pupil to be a malefactor.

The next thing to be sought is to awaken the minds of the pupils, to stimulate their thirst for knowledge, to train them in habits of inquiry. The successful teacher is the one who makes his pupils think patiently and independently, who stirs them up to original investigation. Any pupil who has had this done for him has been "fitted," so far as his mind is concerned, for success in any calling. —*Selected.*

LESSONS IN LITERATURE.

There is one idea in particular that a great many teachers of English literature either partly or entirely neglect. It is the ordinal importance of the three elements in a literature lesson. This importance may be stated as follows:—

1. The subject-matter.
2. The author.
3. The style or manner of composition.

Some will demur to this and say that number three is in itself almost the entire lesson, and is more important in teaching literature than either of the others. But the truth is, the learner's natural mental constitution seeks the instruction in precisely the order stated, that is, *the thing;* thirdly, *how did he make it?*

Not only is it true with pupils, but with all readers, young and old. For example: We open the book at "The Origin of Roast Pork," by Charles Lamb. The controlling proneness of the pupil's mind is not to be informed about Charles Lamb, nor about the style or dictation or literature of the piece, but to know, first of all, the thing talked about, and then let the other matters come up. So if he is suffered to regard natural chronology in his acquisitions, he proceeds at once to enjoy the relishable account of the burning house and the accidental discovery of the esculent quality of roast pig without a thought of Lamb, or his style of writing. It is to cause such absorption in the reader of what is being said that is the aim of the author, and it may be truly said there can be no adequate appreciation of a writing without this absorption of the subject by the reader. The genius of authorship lies in the ability to create this. Therefore, an intelligent appreciation or understanding of *what* is written is the foundation of the literature lesson; the investigation of *who* wrote it and *how* it was done are subsequent.

This much I offer in opposition to the teacher who would, for instance, insist on the pupil's learning a biography of Charles Lamb, and an elaborate analysis of his literary characteristics, *preparatory* to an attack on his "Origin of Roast Pork."—*N. Y. Sch. Jl.*

DISCIPLINE.

Never threaten, or scold. Never say, "John, if you don't stop that I shall punish you severely." Or, having been so unwise and hasty as to declare an intention to punish, do so. Your failure to carry out your threat will convince the children that you are infirm of purpose and untruthful, and they know by instinct that weakness or falsity can be imposed upon by the daring or disorderly with impunity. Scolding and fretting and impatience are also indications of weakness, and the child who is not tempted by them to trespass on rules afresh is a very exceptional child, indeed.

The general rules of discipline may be varied somewhat for the different classes of children found in different localities, but the qualities they demand in the teacher are in the main always the same. Firmness is needed, also kindness, and absolute self-control. "Let your yea be yea, and your nay, nay." Mean what you say, and say what you mean. Seek for a wise and temperate theory, and follow it up with a sensible, consistent practice, and the probabilities are that your difficulties in disciplinary work need no longer imperil your happy success.—*Present Age.*

A consistent advocate of the present unphonetic, irregular style of orthography writes a long letter in defence of the method, and the following is an extract:—Yough kumplein uv psighlent leththerz. Inn yewer igknowrunts, yue phale to purseeve thatte wie haph know cylunt letters. Awl thoughs whitch ue kawl sough arr mierleigh kompownunt parrhts oph buy-litterhal, or try-littorhal, or multigh-littorhal karrhacturz yewzd too denought cympal vokle eleménce. Two illstraight. Thayr iz ay vokle elemunt kommunley reprhezentid by thea karuktur *u*. Butte thysse iz ekwallie rheprhezentid buy *ue*, *eu*, *ew*, *ui*, *ugh*, *ough*, etc., etc. Ay nuther iz rheprhezentid buy *t;* butte yt haz az ekwiphaylunts *th* (az inn *thyne*), *tw* (az inn *two*), and *phth* (az in *phthisic*). Ai thurd, rheprezentid buy *f*, haz atte leest won buy-littorhal ekwivaylent, *ph*. Nou appligh theeze prinsipuls too thie spellynge oph ai wurred kombigning awl theighr phokle elemense, anned knowtiss thoe bewtiphul varhietee they opphur two ower chawiss. Wee maigh haph *frewt*, or *fruet*, or *frughth*, or *phriewth*, or *phroughphth*. Inn vue ov possighbilitiez souch az theeze, whitch ey dough naut preethend tou eggsaust, amme ei naut joustyphyde inn saighing, "Heer's writchness"?—*Globe.*

"Canada School Journal" given away for 1884. See Special offer.

Notes and News.

ONTARIO.

A new business college under Prof. Bannister's management has been opened in Brockville.

The gentlemen who have been appointed to the Fellowships in University College have entered upon their duties. They are:—Classics, J. C. Robertson and H. R. Faircloth; mathematics, J. W. Reid; physics, T. G. Campbell; mental science, A. S. Johnston; French and German, J. S Squair; biology, F. McKenzie; chemistry, F. P. Hall. These gentlemen are, of course, all graduates of the University.

The friends of the young ladies who have made application to the Council of University College for permission to attend lectures in the college have submitted the matter to a leading solicitor, with the object of ascertaining whether or not it would be possible to obtain a mandamus compelling the Council to admit the ladies. A decision will probably be arrived at shortly. In case it be not favorable an application for relief will be made at the coming session of the Legislature.

The St. Hyacinthe *Courier* of a recent date says:—"We learn with pleasure that a Commercial College has just been started at Sorel. It is this kind of college that is needed in our sister town (Sorel), for we certainly have in our province classical colleges enough to answer the wants of our population for a long time to come. It would be a mistake to multiply them further, as our people justly complain that the liberal professions are overcrowded, whilst persons desiring to go into trade or manufacturing industries here have not sufficient facilities to acquire the necessary education."

In February last the authorities of the Kingston Collegiate Institute engaged Mr. R. Meek, a phonographer, to give lessons in shorthand, and a class of twenty-six was very shortly after formed. So successful was this new departure that it was determined to add telegraphy to the studies of those who wished to obtain a purely commercial education. This has been done, and a room has been fitted up with all the apparatus necessary for teaching the art in a thoroughly practical manner. In Toronto these most necessary arts can only be learned at considerable expense, and at independent places of instruction having no connection with the Public Schools or Collegiate Institute.

On Friday, 21st September, the pupils of Rockvillage Public School received their first visit from their new inspector, Mr. Smirle. He spent the forenoon in examining the classes present on the various subjects taught, and the pupils were highly pleased with the kind, winning, searching tact he displayed in finding out what they understood of their studies and what progress they had made. At the close of the examination he expressed himself satisfied with the pupils' attainments, especially as many of them present were very young; he was pleased with their appearance of neatness and general good behavior. He expressed a hope that they would so persevere in their studies as to show good improvements on his next visit about the first part of the New Year. He commended the intelligent zeal shown by the people of the section in having erected and so well furnished so good a school-house, and he hoped that the pupils would show their high appreciation of the privileges they enjoyed by working hard to obtain a good education.

The numerous friends of G. A. Chase, M.A., formerly of Galt Collegiate Institute, will be pleased to learn that he has been appointed head master of the new High School recently founded at Ridgetown. The building is a very good one, the school begins under the most favorable auspices, and is located in the midst of a rich district, well supplied with efficient public schools; and with such a master as Mr. Chase and Mr. Sinclair, an experienced teacher, as assistant, it is not risking very much to predict a prosperous career for this new High School.

The friends of secondary education at Petrolia are marching on in the direction of a new High School. The preliminary steps have been taken, and we understand that the department looks favorably on the project. The probabilities are that the school will be in full working order before many months elapse.

The new professors of chemistry and apologetics and New Testament criticism in Queen's University, Kingston—Messrs. Goodwin and Ross—were duly installed on the 16th ult. Prof. Ross delivered the inaugural. Subject—"Physical Science and the Possibility of Miracles."

The Ottawa papers give an account of Dr. McLellan's official visit to that city as Director of Normal Schools. The address to the students was in the learned doctor's best style, deeply interesting and thoroughly practical. In forcible language he pointed out the importance and dignity of the teacher's calling. The benefits arising from the professional training received in our Normal Schools were dwelt on in his usual impressive manner, and his whole visit was a stimulos and an encouragement to the students.

A St. Thomas paper has the following sensible remark:—The demand for good teachers is scarcely met by the supply. One would suppose the large number of candidates would render the profession crowded. It is not overstocked, and the prospects indicate that next year will see a scarcity in this part of the country. In Elgin several teachers intend, we understand, to give up the business at the close of this year and turn their attention to other lines. Trustees, who desire to get good teachers would be wise in engaging in time. By putting off the matter too long last winter some schools in parts of the Province were vacant quite a while. It is not hard to find in what the difficulty consists. The remuneration, though sufficient to induce many to enter the profession, is not high enough to make many make it their life-work. There is not a fair discrimination made between the experienced and the inexperienced teacher. Under such circumstances we may expect young men to make teaching a stepping-stone to other professions. The desire for economy in public expenditure is highly commendable. The desire for so-called cheap teachers results very often in extravagance of the worst kind. The poor teacher is dear at any price; the one who has already earned a character for efficiency should, if possible, be retained by the section.

Wellesley School, Toronto, was the scene of some disturbance on the morning of Oct. 8th. It appears that some of the chimney flues became stopped up, and the school-rooms were filled with smoke so densely that some of the children were much frightened. Mr. McDonell, the head master, found it necessary to dismiss some of the rooms, and he had considerable difficulty in preventing a panic and general stampede among the children. This was, however, averted, and no evil result followed. The cause of the disturbance will be at once removed.

The *Globe* recently published four columns reporting the views of leading educationists on the higher education of women and on the co-education of the sexes. Very little difference of opinion is expressed on the first question. Opinion seems more divided on the second; many of those favoring separate education for ladies point out the advantage of utilising Upper Canada College as an equivalent to University College, in which ladies may pursue higher studies and have all the advantages of university training.

Mr. Joseph Latter, teacher of Ellesmere Public School, in the County of York, has just engaged for the twelfth year of service with his Board of Trustees. Such instances are so rare that we are pleased to make a note of this one. We congratulate both trustees and teacher, and only wish that this case was the rule instead of the exception in Ontario.

The Lambton Teachers' Association was disappointed of the services of Prof. DeGraff of New York. The effort to secure a good conductor was laudable, but it costs less and produces more tangible results to employ home talent, of which there is a fair supply.

Mr. Charles Peets is teaching at Clearville.

Rev. Robert Torrance, of Guelph, has given a scholarship of $50 to Knox College.

John Bothwell has engaged to teach the school at Mount Pleasant next year.

East Middlesex Teachers' Association meets on the 16th and 17th of November.

D. S. Skinner, B.A., of Blanshard, has assumed the position of assistant master in the Walkerton High School at a salary of $750.

In the Kingston Commercial College the lectures on Political Economy, Physiology and Hygiene, and Commercial Law are open to the public.

The next entrance examination to Collegiate Institutes and High Schools will be held Thursday and Friday, the 20th and 21st days of December.

Corinth Public School, under Mr. A. Moss, assisted by Miss Louie Lane, is prospering. A literary and musical entertainment is spoken of.

At the late intermediate examinations Seaforth passed 35; Goderich, 32; Clinton, 34; London, 30; St. Catharines, 58; Orillia, 21; St. Thomas, 63; Stratford, 43; Mitchell, 13; Listowel, 21.

Mr. D. P. Clapp, inspector of schools, North Wellington, has laid before the Government serious complaints regarding the action of the Canada Publishing Company's agents to get the Canadian Readers introduced into the schools.

The classics for the junior matriculation in Toronto University for next year are:—Xenophon, B. 2, Homer, Iliad, B. 4, Cicero, Cato Major, Virgil, Eneid, B. 5 (1—361), Ovid, Fasti B. 1 (1—300), and for Honors Demosthenes, Olynthiacs, 1, 2, 3, Homer, Odyssey, B. 9, Livy, B. 9, chaps. 1—19, Horace, Odes, B. 3, Ovid, Fasti, B. 1 (400 to end).

Mr. Ulysses J. Flach is pursuing the second year's work of the university at the St. Thomas Collegiate Institute.

There is likely to be a scarcity of teachers next year. The number of students this session at the Normal Schools is small.

The Canada *Presbyterian* of this week contains an interesting sketch of the life of the Rev. Dr. King, whose removal from Toronto to Manitoba is now very near. Dr. King is a native of Yetholm, a pretty little village in Scotland, near the foot of the Cheviot Hills. He matriculated in Edinburgh University at the age of fifteen, and graduated there five years later, with a degree of M.A. He was licensed to preach in 1855 by the Presbytery of Edinburgh. The following year he volunteered to go to Canada to engage in missionary work. He spent a year in this work and then accepted a call from the Columbus and Brooklin congregations, being ordained on the 27th October, 1857. Here he labored until May, 1863, when he received and accepted a call from Gould street church, Toronto, in succession to the late Dr. Robt. Burns. During Dr. King's pastorate here his congregation increased to such an extent as to render the erection of a new church a matter of necessity, and the graceful structure which now ornaments St. James' square was accordingly built, costing, together with its site, $54,000. It was opened on the 17th November, 1878. Dr. King has gained the reputation of being a most faithful pastor and an indefatigable worker; he has been a devoted friend to the educational institutions of his Church, and has done much to promote the welfare of the students. During the present year, the Church elected him Moderator of the General Assembly of Canada, the highest position in her gift, and at the same session called him to the office of Principal and Professor of Theology in Manitoba College. This call he has accepted, to the universal satisfaction of the Church, but to the deep personal regret of those with whom he has been connected in Toronto. At the farewell meeting which was held in his church on Monday evening, October 22nd the Hon. Oliver Mowat presided, and Rev. Dr. Cochrane attended on behalf of the Home Mission Committee. Dr. King's induction in Manitoba College took place on the 31st ult.

In the case of Dunn v. Board of Education of Windsor, Judge Ferguson delivered judgment yesterday upon the application made a week or two ago for a *mandamus* to compel the school trustees of the town of Windsor to admit the daughter of one Dunn, a colored citizen, to the Public Central School in that town. It appears that there are three Public Schools in Windsor, the one in question, a Separate School, and a Colored School. Mr. Dunn alleges that the head master, Mr. Duncan, refused his daughter admission to the Central School on account of her color, and that he then applied to the trustees at their regular meeting on the 4th of September last, who also refused it. The grounds of the refusal as stated by the Board of Trustees were two, that there was no room for the girl in the Central School, and that in Mr. Dunn's application he did not proceed in the proper way as laid down by the school regulations in full. He should have applied to the inspector to have his daughter transferred from the Colored School, where she was an attendant during the previous term, to the Central School. Minute evidence was given to his Lordship as to the exact amount of desk accommodation in the school, and he came to the conclusion that the defendants' refusal on that ground was justified, as also upon the other ground. The judge further remarked that it did not appear that the reason for the refusal to admit Miss Dunn was her color, or that that reason was assigned by Mr. Duncan or by the trustees. He accordingly refused the *mandamus*, and expressed the hope that the school trustees would not press for costs.—*Globe.*

What are you going to do, brother, to extend the circulation of your professional journal?

GENERAL.

St. Louis again claims to have found a way out of her trouble. The Supreme Court decision prohibits the expenditure of money for the education of children under six years of age. This endangers the continuance of her public kindergartens, of which she is justly proud. For a time children were received without being questioned very closely concerning their age, but this furnished little relief, and was not very honest. Now the following rules are offered as a remedy:—

"Children shall be received into the kindergarten a half-day only at the age of six years. Children may be received into the kindergarten a half-day only at the age of five years, upon payment of tuition at the rate of $4 per year, payable quarterly in advance.

"In those schools to which kindergartens are attached, no pupil shall be admitted to primary instruction until he has reached the age of seven years. In those schools having no kindergarten, pupils may be admitted to primary instruction a half-day only at the age of six years, if vacancies exist after the other children have been accommodated.

"Pupils who have reached the age of seven years shall be admitted to primary instruction all day, but no child shall be permitted to attend the kindergarten during one-half of the day and the primary school during the other half of the day.

"These regulations shall not prevent those pupils seven years of age, or older, whose parents so desire, from receiving instruction for a half-day only, either in the primary or kindergarten department."

It will be noticed that these rules also do away with the reprehensible practice of instructing one half-day in the kindergarten, and the other half day in the primary school. The rule is an improvement, although it will not help the matter if the $4 tuition should be insufficient to pay the expenses. And if this fee should be sufficient, we see no reason why this offer should not include children four years old.

Education in Louisiana—*The Schools Closed for Want of Funds.*—A special despatch to the eastern press says that to-day there is not a Public School open in all Louisiana. Hon. E. H. Fay, State Supt. of Public Schools, in explanation of the situation, has written a letter, addressed to Ben. P. Edmunds, president of the School Board at Sparta, La., and says:—

Dear Sir: Your favor of the 6th inst. reached me only last night, and I hasten to reply. You say people are constantly inquiring of me why they cannot have Public Schools, and ask me to state the reasons. This I will now do in as few words as possible. First, the General Assembly of 1882 made little or no provision for their support, appropriating only $107,000, all told, from July 1, 1882, to July 1, 1883, never before having appropriated less than $300,000 since the Public School system was first established. Out of this aforesaid amount they unconstitutionally appropriated $30,000 per annum for two years to three universities, one at Baton Rouge and two at New Orleans. Your superintendent enjoined this payment, but was non-suited, the Supreme Court holding that he had no right to protect the interests of the Public Schools, even though he did it at his own personal expense. The apportionment of the State Superintendent, made Feb. 24, 1883, of the funds of 1882, was enjoined by the city School Board of New Orleans, because they were not given so much as the parishes were. Owing to an error in reporting "funds on hand," the June apportionment of 1882 had to be cancelled, but New Orleans had succeeded in drawing some 22 *per capita* cents of educatable children—some $13,000—before the error was reported at the superintendent's office. True, this over-draft of New Orleans was out of the funds of 1881, and would never be collected to pay the rest of the State 22 cents *per capita* held up from New Orleans funds of 1882, and apportioned to the rest of the State, to make up the amount in July, 1882, by New Orleans. New Orleans claims that, notwithstanding the over-draft of the fund of 1881, she is entitled to a *pro rata* share of the funds of 1882; hence the injunction restraining the auditor from issuing warrants on the funds of 1882. The case was decided in the lower court in favor of the State Superintendent, and was appealed by the attorneys of the New Orleans School Board, returnable in February next. Your superintendent has proposed that if they will relieve those funds already apportioned from their injunction, and allow them to be paid out to the State, he will hold up from the appropriation sufficient to satisfy their claim if it is decided to be a valid one by the Supreme Court in February, 1884, but he can get no reply from them. Your superintendent has exhausted all means in his power to give what little appropriations have been made to the Public Schools of the State.

The effect of this litigation, it is said, has been to close the doors of every Public School-house in the State, outside of the cities, and there is no prospect of their opening again until after the State election of April next.

The Philadelphia *Bulletin* says :—"It is a very remarkable fact that speaks badly for our vaunted progress in the science of education, that almost nothing is taught in the schools of the present day. They are simply recitation rooms, where children go to repeat the result of laborious study and instruction at home. The school proper is at home, and the parents are the teachers. The amount of labor that our modern school system throws upon the parents of the scholars is as intolerable as it is wrong and unreasonable. In many families the evening circle is simply a drudgery over the teaching and learning of lessons, often so badly adapted to the capacity of the pupil, to be learned from text-books so ingeniously contrived to "darken wisdom with words without knowledge," that parent and child are alike incapable of mastering their difficulties. Hours that belong to domestic recreation and enjoyment are thus converted into hours of weariness and vexation.

Miss Howard, an American lady, is one of the most distinguished physicians in China.

Dartmouth College is to have a new chapel, to cost $30,000. Work will begin on it in the spring.

Miss Fuller is a school teacher in Grand Marais, Northern Michigan. She is also an admirable shot with the rifle, and after school hours goes hunting in the neighboring woods.

The University of Zurich has now thirty-one women students, of whom only seven are German. Twenty of these ladies are studying medicine, ten philosophy, and one chemistry. Zurich has conferred the doctor's degree on thirty women during the ten years, during which the university has been open to both sexes alike. Twenty-three of these were doctors of medicine; the remaining seven had the Ph. D. degree.

The comment is made that Mr. Mulhall, the eminent English statist's, suggested remedies for suicide are really preventives of insanity. He tabulates them somewhat as follows :—1. To abolish the duty on coffee, which is the greatest foe to intemperance. 2. To open museums and galleries on Sunday afternoons. 3. To forbid marriages between cousins, under penalty of paying double the ordinary poor rates. 4. To imitate Mr. Peabody, as far as possible, in erecting suitable workmen's tenements. 5. To recommend less high pressure in schools.

Mrs. Mattie Booth, a coloured woman, has opened a school for women in her husband's parish in Selma, Ala. In the three months of the school, she has welcomed forty who were unable to go elsewhere. She writes, "One old woman, seventy-five years of age, came tottering in with her primer. A younger pupil said, 'Why, Sister Grant! you are too old to go to school.' 'I know,' she said, 'my time is almost out here, but I would like to learn just to spell the word God; then I shall be satisfied.'"

At a school examination a clergyman was descanting on the necessity of growing up loyal and useful citizens. In order to give emphasis to his remarks, he pointed to a large flag hanging on one side of the school-room, and said :—"Boys, what is that flag for?" An urchin who understood the condition of the room better than the speaker's rhetoric, exclaimed :—"To hide the dirt, sir."

An interesting experiment is being tried at Bowdin College. The president and a jury selected from the students try all offenders against college discipline. The jury is composed of one representative from each class, one from each inter-collegiate society, and one from non-society students. The president is the judge He awards the penalties. Two verdicts are brought in—one of fact, the other of opinion. The former must be unanimous. The latter is determined by a majority vote. Four grades of offences are recognized, and corresponding penalties annexed to each. The president has no right to award any other penalty than the one attached to the particular offence in question.

Out of 780 young men under 21 years of age committed to the Eastern Pennsylvania Penitentiary during one year, 765 had no trades, though 772 were graduates of schools. This is a sad commentary on the too prevalent notion both of youths and parents that the only respectability and all the opportunities for individual advancement are in the kid-gloved pursuits. Young men roughly jostled out of the over-crowded professions and genteel employments find themselves utterly unfit for anything useful, and in too many cases turn to crime as likely to afford the most satisfactory returns. It is not the fault of education; it is the fault of the unfortunate social tendency of the times, which so seriously discriminates against legitimate labor, and falsely elevates white hands and good clothes and empty heads and pockets.—*Globe.*

Readings and Recitations.

TO THE TEACHER.

"Treat the children fairly, kindly,
Lead them gently on their way,
Let them feel the power of sunshine,
As they toil from day to day.
Make their labors happy, pleasant,
Win them by the love of truth;
Lure them on by sweet incentive
O'er the slippery paths of youth."

BENJAMIN FRANKLIN.

This man, who became so famous throughout the civilized world, was born at Boston, Mass., on the 17th of January, 1706. His father was a dyer and soap chandler. At the age of eight years he was sent to a grammar school to begin his education for the Church. Before he had made much progress he was taken home to assist his father. Being the fifteenth of seventeen children, it is probable that but for his ambition and indomitable perseverance he would have remained a soap boiler, and thus would have been lost to America the fame of having produced the man who first learned to utilize the lightning. Finding the boy so dissatisfied with his present employment, his father apprenticed him to his brother James, who was a printer. While learning the trade of printer he formed acquaintances from whom he borrowed books.

His thirst for knowledge was so great that he often read all night in order to return books which he would borrow one evening to be returned the next morning. About this time he indulged in writing poetry, but soon became convinced that the paths of poetry were not for his feet. He began to argue with a young friend who was also fond of reading. These disputes were often written, and he found himself inferior to his friend in style and diction. To remedy this, he read articles from the finest writers, and soon found himself greatly improved; so much was he encouraged that he hoped to become a great writer. Many and great were the obstacles before him, but he had the will and pluck to persevere. His brother's treatment had ever been unkind, and he decided to leave him. He had lived in a very frugal manner, in order to have money to buy books, a part of which he now sold to get money to enable him to seek employment in other cities. After failing in Boston he proceeded to Philadelphia, where he landed a stranger, worn and hungry, with one dollar and a few coppers. Out of this he paid his passage and bought some bread, which he ate as he wandered up and down the streets in search of employment. Miss Read, who became his wife years afterward, saw him from her father's door, and said he presented a very ridiculous figure, walking munching from a loaf of bread, and carrying one under each arm.

But he did not remain obscure. His industry, morality, and frugal habits soon brought him friends. In 1724, by the advice and promised assistance of friends, he went to London, expecting to set up in a business for himself. As is too often the case, the friends forgot to lend the promised aid, and he was thrown on his own resources.

His temperate, frugal manner of living was the means of doing a great deal of good. His companions abolished the mug of beer and other harmful things from their meals, and by simpler fare were enabled to save health, morals, and money. Soon after this he published his celebrated almanac called "Poor Richard's Almanac," which was full of valuable moral maxims which have since been collected in a little book called "The Way to Wealth." In 1736 he was appointed clerk to the General Assembly, next postmaster, then alderman. He also began to give great attention to public schools, hospitals, and other measures for the good of the people. He proved the identity between lightning and the electric fluid. By means of a kite string and key he drew lightning from the clouds, imprisoned it in a vial, and gave to the world a power which has since been made so useful. He had become a great philosopher and statesman, visited kings and courts, received

medals, was elected honorary member of societies, and received honor everywhere. What a contrast to the dirty little printer who walked the streets of Philadelphia, eating bread while he sought employment that would enable him to buy more when that was gone!

He was a man that read practical lessons of life from the most commonplace incidents. We give the following in his own language:—

When I was a little boy, I remember, one cold winter morning, I was accosted by a smiling man with an axe on his shoulder. "My pretty boy," said he, "has your father a grindstone?" "Yes, sir," said I. "You are a fine little fellow," said he, "will you let me grind an axe on it?" Pleased with the compliment of "fine little fellow," "Oh, yes, sir," I answered, "it is down in the shop."

"And will you, my man," said he, patting me on the head, "get me a little hot water?" How could I refuse? I ran and soon brought a kettleful. "I am sure," continued he, "you are one of the finest lads that ever I have seen; will you just turn a few minutes for me?"

Pleased with the flattery I went to work, and I toiled and I tugged till I was almost tired to death. The school bell rang, and I could not get away; my hands were blistered, and the axe was not half ground.

At length, however, it was sharpened, and the man turned to me with, "Now, you little rascal, you've played truant, be off to school or you'll rue it!"

"Alas!" thought I, "it is hard enough to turn a grindstone, but to be called a little rascal is too much." It sank deep into my mind, and often have I thought of it since. When I see a merchant over-polite to his customers, methinks "That man has an axe to grind."

When I see a man who is in private life a tyrant flattering the people and making great professions of attachment to liberty, methinks, "Look out, good people! That fellow would set you turning grindstones!"

Boys, you who are destitute of the many advantages of worldly possessions that others seem to possess, should not become discouraged, but set your mark high up on the ladder of fame and honor. Many mountains that seem insurmountable will rise before you, but with the perseverance of a Franklin, you may scale their very peaks, and reach high and verdant fields beyond.

Let his maxim ever be fresh in your mind—"He who is diligent may some day stand before kings."—*Southern School Journal.*

A son of St. Crispin having been summoned to appear before a School Board in the Midlands to explain the cause of the irregular attendance of his daughter, sent the following letter:—"To the ——— School Board, assembled in their barbarous imitation of a Gothic Temple. Gentlemen,—Do you as a body claim to be political economists? I trow not, or you would not require me to lose time, which to me is money indeed, to appear before you. Do you as a body set up any pretensions to philosophy? I am doubtful, or you would not require girls to be regularly at school, for most assuredly there must be a time for them to acquire a knowledge of domestic affairs, or how are the ranks of domestics to be filled? Education at school is but a means to an end—that end being life—for all, but for girls there must be education, or its equivalent education, at home. I need not tell you that the London School Board have become really alive to this. Why dont you become a vigilance committee and visit your schools, to see that there are plenty of hat-pegs, wash-hand basins, towels, &c., and so teach ORDER, which is heaven's first law; and cleanliness, which is godliness? This in my opinion would be more commendable than spending postage stamps in badgering the industrious poor, who should be allowed some discretion over the juvenility days of their ch ldren. I never heard of School Boards interfering with the four months' holiday per year of the sons of beef-eaters. Why don't they send them summonses and say, BRING THIS WITH YOU? Bring this with you. Great heavens! You ought to deliver yourselves up to Her Majesty's Privy Council and take lessons in common politeness. I feel awfully insulted; however, I promise to send the girl to school to day.—Gentlemen, yours obediently, ——.——."

THE TEACHER'S MISSION.

Delightful task! to rear the tender thought,
To teach the young idea how to shoot,
To pour the fresh instruction o'er the mind,
To breathe the enlivening spirit, and to fix
The generous purpose in the glowing breast.
—*Thompson.*

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

ARTHUR.—The first meeting of the Teachers' Association of Arthur Township was held June 19th, at the Kenilworth Public School. Present—Mr. Clapp, the Inspector, Misses Ghent, Sparks, McTaggert, and McGillicuddy, and M. Corbett, A. Allen, G. P. Allen, A. Hellyer, and T. A. Brough, besides the trustees and pupils of the school. Mr. Corbett was appointed chairman, and Mr. Brough secretary. Classes in Reading, Writing, Arithmetic, Literature, Grammar and Geography were taught by the teachers present, twenty minutes being allowed for each class. When the pupils had been dismissed for the day, Mr. Brough read a paper on "How to Construct a Time-Table," and exhibited the one used in his own school. Mr. Corbett, in a paper on "How to Secure Regularity of Attendance," advocated merit-cards, plants in the school room, and flowers and shade-trees in the yard. While discussing the above subject, one of the trustees present said that the Government should appoint an officer in every district to enforce attendance, and should not expect trustees to have their neighbors fined. After a vote of thanks to the chairman, friends, and visitors, the association adjourned to meet in the same place next year. The work done was practical in its scope and the teacher's manner in dealing with each subject and class was freely criticised; and by this means errors were corrected, and new and valuable points brought out.

WEST LUTHER.—The first Teachers' Convention of this township met on Wednesday, June 20th, in the school-room of S. S. No. 6, Miss Anderson, teacher of the school, being appointed to the chair and Mr. Smith as secretary. The business of the convention was opened by Miss Spark giving a practical method of teaching dictation, her mode of correcting errors being excellent, namely, making a distinction between those in punctuation, capitals, and spelling. The after discussion, especially the remarks of D. P. Clapp, B.A., P. S. I., impressed upon the minds of the teachers the necessity of using written exercises to secure proficiency in this subject. Local geography to second class was then taken up in a pleasing manner by Miss McGeehan. The criticism on this subject was interesting, referring chiefly to the point: "Is it necessary to teach definitions, and, if so, to what extent?" Miss Ritchie then introduced the subject "Numeration and Notation" to second class, which she taught in a skilful manner. In the after discussion Mr. Segsworth, late Deputy-Reeve, while commenting on the simplicity of the explanation and comparing it with the method used in the schools of his youth, gave a good thought in saying that "the old system worked on the principle of the hardest possible way to do a hard work." Mr. Smith commenced the afternoon session with a lesson on the "River System of North America," beginning with the pupils' own ideas about water and its manner of flowing. He took up the great mountain chains and the rivers flowing from them. The mountain system of Europe was then ably taught by Mr. Lipton. His method, which was that of drawing an outline map on the board and filling it up as the lesson proceeded, rendered the work interesting and instructive. A short essay on "Uniform Promotion Examinations" was then read by Mr. Smith. The essayist dwelt chiefly on the improvement in attendance, in interest, and in the thinking faculties of the pupils resulting from the examinations. After several suggestions as to changes in examination regulations, made by our efficient and observing inspector, had been agreed to, Miss Spark favored the convention with an essay on the correct keeping of registers, dwelling especially on accuracy and neatness, and bringing out the thought that well-kept registers should be a teacher's pride. It was moved by Mr. Smith, seconded by Miss McGeehan, that the thanks of this convention be given to Mr. Clapp for the valuable hints which we, as teachers, have received from him during the exercises of the day. Carried. After a vote of thanks had been given to the chairman, secretary, and other members who had assisted in the entertainment of the day, the convention adjourned.

EAST AND WEST LAMBTON.—A union meeting of the East and West Lambton Teachers' Association was held in the Methodist school-room, Sarnia, on Thursday and Friday, 20th and 21st September. There was a large attendance of teachers from both divisio s of the country, but considerable disappointment was at first experienced owing to the failure of Professor DeGraff to be present, although Professor Houston, who came to take his place, proved to be an able man in the line of work, and added something to the success of the meeting. The meeting was called to order at 9 a.m., John Brebner, president, in the chair. The meeting was opened with prayer by Thomas White. Mr. Brebner gave an opening address, stating the difficulty under which the association was laboring owing to Professor DeGraff not being present, after which Mr. Barnes explained how he would teach mental arithmetic. A

discussion followed in which Mr. Maxwell, Inspector for South Essex, and several teachers took part. Mr. Donaghy then gave an address on letter-writing. The discussion which followed related chiefly to the best methods of teaching this subject. After recess Mr. A. A. Clappe and a choir of teachers kindly consented to give several selections of music. Mr. W. S. Howell next explained how he would teach addition and subtraction to classes beginning the study of those subjects. The discussion on this subject concluded the forenoon session. *Afternoon Session.*—The meeting was called to order at 2 p.m. Mr. D. D. Moshier exhibited his method of map drawing, taking the map of South America as an example. Various opinions regarding map drawing were advanced by different teachers, and at the conclusion of the discussion it was announced that Prof. Houston would give a selection of readings and recitations. The Professor then in a very able manner recited three different pieces, much to the satisfaction of those present. The programme was then resumed by Mr. J. R. Brown, who discussed English grammar, dealing with the verb. The methods of distinguishing the different inflections, &c., were explained by means of examples written on the blackboard. A lively discussion followed the introduction of the subject, after which the matter of an evening session was considered, when it was decided to have an entertainment in the Town Hall at 8 o'clock. The entertainment in the evening consisted of readings and recitations by Professor Houston, music by the choir, and solos by Misses Morrison and Dickey, and Mr. T. Smith. It was a complete success, everyone appearing to be thoroughly satisfied with the proceedings. At the close a vote of thanks was tendered those who assisted at the entertainment. *Friday.*—Meeting called to order at 9 a.m. It was decided to proceed with the discussion of the new text-books. After a lengthy discussion of the merits of the two series of Readers authorized for use in our Public Schools, it was moved by Mr. D. Sinclair, seconded by Mr. Graham, That this association recommend to the Inspectors and School Boards throughout the county the adoption of the readers published by Gage & Co., as the best adapted to meet the wants of our public schools. Carried. Wm. Sinclair, B.A., then gave an address indicating the method he would pursue in teaching history. After a short discussion on this subject the association adjourned till 1.30 p.m. *Afternoon Session.*—Meeting called to order at 1.30 p.m. Prof. Houston then gave an address on "Reading to Junior Pupils." His remarks on this subject were of a thoroughly practical and interesting character, and appeared to fully enlist the approval and sympathy of the teachers present. Dr. McLean then delivered a carefully prepared lecture on "Health in the School-room." The lecture clearly set forth the necessity of proper attention being paid to cleanliness, thorough ventilation of rooms, etc., and at the close the lecturer was tendered a hearty vote of thanks for the valuable instruction which he had given. Prof. Houston next being called upon recited "Lady Clare" and two other pieces, which were listened to with rapt attention by the teachers and others who were present. The last subject on the programme, viz., "Tardiness," was discussed by Mr. Thos. White. The various plans he would adopt to remedy this defect were pointed out, and at the close of his address a general discussion followed, in which several teachers took part. By the kindness of Messrs. McDonald and Donaugh we had the pleasure of meeting Prof. Houston, whose readings were so highly appreciated by the Teachers' Association. Mr. Houston is a Professor of Elocution from New York, who very kindly consented to come to Sarnia instead of Prof. DeGraff. The Professor's readings were both pathetic and humorous, and were rendered in such a style as those only who have given elocution a great deal of study can. His rendering of Phil Blood's Leap, a Passage in the Life of Mr. Gabriel Parsons, Giving Away a Child, The Pin, and Our Boy—a bachelor's opinion with it, were his masterpieces, and were very warmly received. The Child's Prayer, The Ride of Collins Graves, and Love in a Balloon, were also well received. Moved by Mr. Thos. White, seconded by Mr. McDonald, that the teachers of the County of Lambton tender their hearty thanks to the people of Sarnia for the kind manner in which they have been entertained while here. Carried. Moved by Mr. Barnes, seconded by Mr. Brown, that the thanks of this association be tendered to the trustees of the Methodist Church, Sarnia, for the use of the school-room in which to hold our meetings. Carried. The arrangements for time and place of next meetings were left with the Executive Committees of the respective associations. The meeting then adjourned at 4.30 p.m.

NORTH WELLINGTON.—The annual meeting of the North Wellington Teachers' Association was held in Drayton on the 4th and 5th of Oct., 1883. After the reading of the minutes, a reception committee was appointed to introduce the members to each other. The President, Mr. Westervelt, gave an opening address which the association desired should be published. An essay on "Temperance in School" was read by Mr. Geo. W. Wait in which he advocated the power of the teacher's own example. The president said the moderate drinker did the most harm. It was moved and carried that if the funds of the association would admit, a copy of Dr. Richardson's Manual on Temperance should be placed in the hands of every member. Drill with class, by Mr. W. McEachern, gave rise to some discussion, as it was connected with school discipline. The treasurer reported finances good. A misunderstanding about sending books to members was removed by a motion passed. It was moved and carried that 2,000 copies of Mr L. B. Davidson's essay entitled "Common People vs. Common Schools" should be printed for distribution. Mr. R. W. Bright, of Drayton, is president and Mr. Wm. McEachern of Harriston secretary for the ensuing year. It was moved and carried that the secretary shall receive $15 for next year's service. Mr. John E. Bryant's essay was read by James McMurchie, B.A., H. M. Harriston High School. After some discussion the following motion was moved:—"Moved by Mr. McMurchie, seconded by Mr. Shields, B.A., and resolved, that although this association does not consider the present system of a responsible Minister of Education free from objection, yet believe it to be preferable to that of a Chief Superintendent and Council of Public Instruction as proposed." Carried. Readings, music, and songs were on the programme. The association adjourned to meet next year in Harriston. On the evening of the 4th an entertainment was given; the proceeds were for the benefit of the association; the fund in future will be used to pay the secretary. The lecturer of the evening was Prof. J. Mills, B.A., of the Model Farm, Guelph. He thought that more attention should be given to the study of English in our Public Schools, and that the teaching of agriculture should be compulsory.

REVIEWS.

ELEMENTS OF THE DIFFERENTIAL CALCULUS, WITH EXAMPLES AND APPLICATIONS. By W. E. Byerly, Ph.D. *Boston: Ginn, Heath & Co.* ELEMENTS OF THE INTEGRAL CALCULUS, WITH A KEY TO THE SOLUTION OF DIFFERENTIAL EQUATIONS. By W. E. Byerly, Ph.D. *Boston: Ginn, Heath & Co.* Until very recently all the mathematical text-books published in the United States had the appearance of having been written by school-boys, or at best by rural "Philomaths;" so few indeed were the exceptions that they might almost have been reckoned on the fingers of one hand. But there are signs of a change, of an awakening to a fuller and better knowledge of mathematics and of mathematical instruction. One of these signs is the appearance of the works named above. Mr. Byerly announces that his books are "intended for text-books, not for exhaustive treatises," and as text-books they must be judged. As works on the calculus considered as a branch of pure analysis they are not so full nor, so far as they cover the same ground, so complete as those of Williamson or of Todhunter, much less those of Schloemilch or of Houel, but we know of no books better suited to the wants of those students who seek in the calculus an instrument for investigation in applied science, a guide and director in physical research. Indeed, the needs of such students would seem to have been specially kept in view in the arrangement of the first volume and in the selection of the examples and exercises in it, as also in the addition to the second volume of a chapter which contains what is called a "Key to the Solution of Differential Equations." As an author Mr. Byerly, who may be classed as belonging to the Duhamel School, exhibits all the accuracy of development, the precision of statement, and the clearness of exposition of the best French writers. It is only due to the publishers to add that the paper, composition, and printing are all excellent.

Scene—A western high school; subject history—trial of the bishops. See Collier's British History, p. 242. Student recites (giving exact words of text-book), "That night was a blaze of illumination. Rows of seven candles, with a '*tăl-ler*' one in the centre for the Archbishop, lit up every window, &c." Student interrupted by vociferous applause, but cannot comprehend the reason.

VARIETIES IN ENGLISH SPEAKING.

There was an old fellow in Guinea,
He had a big daughter named Muinea;
She fed curd to the cows
And hay to the sows,
Oh! how could she be such a nuinea?

An old yellow dog in Cologne,
Ran away with an old woman's bogne,
But the watchful old crogne
Hit him twice with a stogne,
And 'twas dreadful to hear the dog grogne.

—*Burlington Hawkeye.*

Illustration from page 40, Book II., Royal Reader, which have proved a failure where used.

ALREADY

Experience has proven that the Nelson Royal Readers

ARE A FAILURE.

IN GRAVENHURST

They have been discarded, after several months trial, as being two difficult and wholly unsuitable, and the GAGE CANADIAN READERS have been introduced.

AT PENETANGUISHENE

A trial is giving a similar experience with similar results.

IN PROVINCIAL MODEL SCHOOL

They are found so difficult that Teachers have been compelled to detain half of the class after hours to prepare lessons.

IN PROVINCIAL NORMAL SCHOOL

At Ottawa so unsuitable that their use has been practically abandoned

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We have made careful inquiries among teachers, parents, and pupils at Toronto and Ottawa regarding the practical results of using the "Royal Readers" during the last two months. The following facts may easily be verified :—

1. In consequence of having no Tablets for class drill, the teachers of the First-Class have been compelled to fall back on the old method of teaching beginners to read from the Primer alone—a clumsy plan which was generally discarded, even in remote rural schools, twenty-five years ago, as an immense waste of teaching power and very discouraging to the little learner. The little folks cannot keep the place with the fine type of the Royal Primer.

2. After a short trial these Royal Primers were found so difficult and unsuitable that their use was practically abandoned at Ottawa. The classes could make more progress without them. In the Toronto school, a class which had been regularly promoted in the usual course to the Second Primer had to be promoted back again to the First, after a short experience of the difficulties of the Second. We find parents complaining in consequence that the children are making no progress, that they are now reading on the same page of the Primer as they were a year ago, and that they are discouraged at the hard lessons.

3. We have discovered that in consequence of the difficult character of the Third, Fourth, and Fifth Royal Readers the number of pupils detained to prepare these lessons has increased by a very large percentage, often amounting to more than half the class.

4. We find also that the teachers have been compelled to select a few of the easier lessons, as they found it impossible to go regularly through the books on account of the total want of proper grading.

HONEST, IMPARTIAL, CONVINCING,

TESTIMONY FROM PROMINENT SCHOOL BOARDS.

Read the following Reports of Special Committees on the Reader Question.

COBOURG COLLEGIATE INSTITUTE BOARD.

A Special Committee consisting of

PROF. BURWASH, Member of Collegiate Institute Board,

DR. POWELL, Member of Collegiate Institute Board, and for 25 years Secretary of Public School Board, Cobourg, and

D. C. McHENRY, Principal Cobourg Collegiate Institute.

Meet together and after examination of the series of Readers, submitted carefully prepared reports which were read at the Board meeting held October 2nd, 1883. We reprint the reports of Prof. Burwash and Principal McHenry. *(See pages 2 and 3.)*

WHITBY BOARD OF EDUCATION.

(For Collegiate Institute and Public Schools.)

A Special Committee consisting of

D. ORMISTON, ESQ., B.A.,

J. E. FAREWELL, ESQ., LL.B.,

G. Y. SMITH, ESQ., LL.B.,

Were appointed to examine and report on School Readers. We reprint their report which is particularly valuable as the members were formerly distinguished Teachers.

It is worthy of note that Whitby School Board has among its members, ***six*** well-known ***University graduates.***

STRONGEST POSSIBLE TESTIMONY!

What a Distinguished Canadian Professor says of

GAGE'S CANADIAN READERS

Report of PROF. BURWASH, a Distinguished Member of the Faculty of Victoria University, and Member of the Collegiate Institute Board, read before the Board at a meeting held on October 2nd when the merits of the Rival Readers were considered.

In Judging of Text-Books for School-reading Six Points have to be considered :--

1. The mastery of the mechanical part of reading, *i.e.*, such association of eye and ear as to form a habit which will instantly and without conscious effort, call up the required vocal utterance as the eye catches the printed sign. Every other consideration must be subordinate to this till the child has passed the stage now indicated by The Third Reader.

2. The cultivation of expressive reading, *i.e.*, attention to emphasis, inflection, and modulation, such as develops, through the reading, the sense and soul of the passage read. This may, we think, begin with the second, though still subordinate, but in the fourth and onwards should predominate.

3. The cultivation of a good literary taste, and the formation of a correct grammatical and rhetorical style. This requirement ranks in importance almost on a par with No. 2 ; and is capable of perfect harmony with it, and while it, in no part of the course, should be neglected, in the fourth form and upward, it should, concurrently with No. 2, receive special attention.

4. General educational effect, *i.e.*, adaptation to awaken and stimulate the interest and *general intellectual activity* of the pupil. This is a very important secondary consideration throughout, inasmuch as a stupid course of reading may, in an incredibly short space of time, reduce your pupil to the most idiotic kind of sing-song machine.

5. The opening up to the pupil of the field of English literature, including an acquaintance with our greatest authors and their best productions. This, though very desirable, must be subordinate to the chief purpose of learning to read. It should also be borne in mind that a little in this line well done is better than a great deal half done.

6. The communication of useful ideas. Science, History, and Biography may be taught in the reading class, but if we venture very far in this direction, the READING itself will almost certainly suffer. The inculcation of patriotic, virtuous and religious sentiments is not liable to the same objection. Expressive reading like oratory involves the play of the noblest elements of our moral and intellectual nature, and all literature is but the embodiment of these activities in a permanent form. We thus naturally turn to our best literature rather than to scientific or practical treatises for selections from which to teach reading. But in making these selections our sixth principle may guide us to select the pure, the ennobling, that which will exercise and stimulate the best and highest in our nature. This is essentially important in selecting that which is to influence the entire youth of the nation.

Turning to the two series of readers before us :—

On the first point, we think "The Canadian Readers" decidedly the best.

1. The printing is better, and thus helps the eye.
2. The selection of *Elementary Combinations* is more judiciously made and better graded.
3. The association of the pictorial with the written word sign helps the memory.
4. The secondary considerations are not introduced so early as to crowd and confuse the beginners.

On the second point again, we think the advantage lies with the Canadian Series. From the Second Book onward an intelligible system of elocutionary training pervades the entire series, culminating in a very good manual of instruction, with selected examples in the Sixth Book.

On the third point we notice in *both* series occasional sentences *which are not models of the best English.* But on the other hand, the finest passages of purest English are to be found in both, and in most abundant profusion in the Royal Readers. In fact, the too great abundance of best things is one of their faults.

As to the fourth point, both series are delightfully fresh. Both the subject matter and the illustrations are such as must delight our young people and make their reading lessons a genuine pleasure.

On the fifth point, although at first sight one might be inclined to suspend judgment, yet we are disposed to prefer the "Canadian Readers," because :—1st. They are not *too crowded.* The selections from our best literature are sufficiently extensive to open up the field. We fear that the magnificent profusion of the Royal Readers would produce very much the effect of the view of a great city from a cathedral spire. A visit to a few of the principal places of greatest interest would really enable one to carry away more satisfactory impressions. 2nd. The apparatus of the "Canadian Series, including more ample biographical and critical notes, is better.

On the sixth point, both series excel. In variety the Royal Readers excel, but we must again accord the palm to the more select taste which, omitting the writings of a vast number of authors whose names will not be missed, is not afraid to acknowledge John Bunyan and the Old English Bible as classics in our literature.

Cobourg, October, 1883. N. BURWASH.

TESTIMONY THAT CANNOT BE QUESTIONED.

What a Well-Known Principal of a Leading Collegiate Institute says of

GAGE'S CANADIAN READERS:

Opinion of D. C. McHENRY, M.A., Principal of Cobourg Collegiate Institute. Synopsis of his Report read before the Cobourg Collegiate Institute Board of Trustees, at a meeting held October 2nd, to consider the Reader Question, with special reference to the III., IV., and V. Readers:

1. WHAT WE REQUIRE.	2. WHAT WE HAVE IN THESE READERS.	
	GAGE'S CANADIAN READERS.	THE ROYAL READERS.
I.—Adaptation to age and capacity of pupils.	*Third, Fourth, and Fifth.*—All well suited to the pupils for whom they are intended.	*Third.*—Altogether too mature; might be used in our *Fourth* class (Preparatory Department), but could not be used in the *Third.* *Fourth.*—The same objection—better adapted to pupils of a higher grade. *Fifth.*—Too heavy for average Fifth form pupils. Fully one-third of this Reader would do for a sixth book.
II.—Attractiveness in typographical and general appearance.	*Third, Fourth, and Fifth.*—Large print, leaded; paper excellent; illustrations very fine; must prove attractive to children.	*Third, Fourth, and Fifth.*—Illustrations very good; print generally smaller, the pages having a *solid* appearance. Notes in small type not conveniently placed, nor in good form for class work.
III.—Gradation in difficulty from the first to the last of each book, and from book to book.	Throughout the series the grading is systematically observed, both in selections and in the exercises which accompany them. Evidently *intended* to form a *series.*	Grading apparently overlooked. Some of the earlier selections much more difficult than others near the end of book. A lack of system is apparent in proceeding from book to book.
IV.—A Text-Book for the teaching of reading.	*Third.*—Commendable features:—Spacing of rhetorical pauses; definitions, with pronunciation, at opening of lesson. As pupils read best what is most interesting, they are likely to read these lessons well, and, under good teachers, will make good readers. *Fourth.*—In addition to the foregoing, furnishes exercises in word-building by restoring the much-neglected lessons on roots, affixes, and prefixes. *Fifth.*—Valuable chapter on Foreign Elements in English Exercises, an excellent preparation for taking up Intermediate Literature.	*Third, Fourth, and Fifth.*—No direct elocutionary assistance; no such exercises as in the Canadian Readers—selections merely. These are excellent, but in themselves insufficient as a *text-book* on reading.
V.—Grammatical and General Exercises, such as will prepare for next Reader, and for necessary Examinations.	*Third.*—Evidently the work of a good practical teacher. Suitably introduces to the *Fourth,* and prepares for naturally taking up the Entrance Examination Literature, without a separate text-book of notes. Excellent supplementary aid to regular grammar class; salient points kept constantly in view. *Fourth.*—Pupils coming to this book through the Third will master Entrance Examination selections *as a matter of course.* *Fifth.*—Under this head, about all that could be desired.	*The three* seriously deficient here. Notes, in fine print, generally at end of book, are not very inviting to pupil or teacher. "Literary Analyses" show that the editor understands his selections; but will not be imitated by average pupil, nor generally adopted by teachers. Lack of exercises and notes on entrance examination work will, it is to be feared, suggest a separate book of notes. As of the other books, the selections are intrinsically of great literary excellence, and worthy a place in any youth's library; but not so well suited as Gage's for ordinary class use.

After carefully examining the two authorized series, I believe (i.) that Gage's *primary* numbers are incomparably superior to the Royal books; (ii.) that having regard to the points I have named as desirable in text-books, Gage's *Third, Fourth, and Fifth* Readers are decidedly preferable, and that the *Sixth* Book will prove an excellent work for our advanced pupils. I therefore recommend that you adopt these Readers for use in the Collegiate Institute.

WHITBY ADOPTS.

Whitby High and Public School Board gives a Unanimous Decision

GAGE'S CANADIAN READERS.

The following well known gentlemen compose the Whitby Board of Education :—

DAVID ORMISTON, Esq., B.A., Solicitor, Chairman.
J. E. FAREWELL, Esq., LL.B., Solicitor, County Crown Attorney.
G. YOUNG SMITH, Esq., Solicitor.
JAS. RUTLEDGE, Esq., B.A., Solicitor.
LYMAN BARCLAY, Esq., Solicitor, Registrar High Court.
JOHN BALL DOW, Esq., B.A., Solicitor.
G. H. DARTNEL, Esq., County Judge.
REV. J. J. CAMERON, B.A., Pickering.
CHAS. KING, Esq., ex-Reeve of Whitby.
JOHN FERGUSON, Esq., Merchant.
J. B. POWELL, Esq., Merchant.
JAMES MCLENNAN, Esq., Harbor Master.

The Special Committee appointed by the Board for the examination of the various Readers was composed of Chairman of Board, D. Ormiston, Esq., B.A., J. E. Farewell, Esq., LL.B., and G. Young Smith, Esq., LL.B. It should be noted that these have been practical Teachers during the earlier part of their career, thus making their report specially valuable.

To the Board of Education of the Town of Whitby :—

The Special Committee to whom was referred the question of School Readers beg to report :—

1st. That your Committee have carefully examined the Canadian Readers, the Royal Readers, and three of the Royal Canadian Readers, which have been placed in their hands.

2nd. Your Committee find that the **CANADIAN READERS** include the full number of properly graded books for the various divisions of the Public Schools and Collegiate Institutes, and that each of such books contains a sufficient number of suitable selections for use in the various divisions for which they have been prepared

3rd. Your Committee find that these Readers possess the following advantages :—

1st. The type of the two Primers is much larger, and the illustrations and exercises more suitable for children commencing to attend School, than the Primers of either of the other series. The 2nd, 3rd, 4th, and 5th Readers have, at the beginning of the lesson, copious definitions of the more difficult words contained in the lesson.

2nd. Questions so adapted as to show the pupils the matter contained in it, which should be learned, and which enable the pupil to test his knowledge of the contents of each lesson after reading it.

3rd. Exercises which train the pupils to think, and which give them practice in composition and in expressing in their own words the ideas contained in the lesson.

4th. A Summary of the principal ideas contained in the lesson.

5th. Copious geographical, biographical, and historical notes accompanying the lessons.

6th. Short but sufficient biographical sketches of the principal authors from whose writings the selections are taken.

7th. Latin prefixes and suffixes, with a sufficient number of Latin roots, also lists of English prefixes and suffixes, thus showing the foreign elements in our language.

8th. List of words often incorrectly pronounced, with directions for their proper pronunciation.

9th. Carefully prepared general rules for reading correctly, and instructions at the foot of many pieces as to the mode of reading them.

10th. The Readers are so printed as to show the rhetorical pauses used in reading and some exercises in poetry printed in prose form.

From these considerations, and from the fact that these Readers with all their advantages can be had without any increase in price over the Readers at present in use, your Committee recommend that **this series be adopted,** commencing with the Primers, so that no unnecessary expense shall be incurred by the ratepayers on account of their adoption.

All of which is respectfully submitted.

JOHN E. FAREWELL, Chairman.

It was moved by J. E. Farewell, Esq., LL.B., seconded by G. Young Smith, Esq., LL.B., that Report be adopted. Carried.

THE "CANADIAN" FOR CANADA.

GAGE'S CANADIAN READERS

ENCOURAGE CANADIAN ENTERPRISE
versus Foreign Enterprise

ENCOURAGE CANADIAN SKILLED PRINTERS
versus Foreign Printers

SUPPORT CANADIAN PAPER MILLS
versus Foreign Paper Mills.

Encourage the use of the best FINE ART PRESSES ever brought into Canada
versus use of Foreign Printing Presses.

GAGE'S CANADIAN READERS

THE CHEAPEST AND THE BEST.

Pronounced by nearly all of the leading Public School Inspectors as best fitted for use in the School-room.

Pronounced by leading Teachers as the best adapted for teaching purposes.

Tried and adopted for use in the Province of Quebec for two years.

Used exclusively in the Province of Manitoba.

Pronounced by a large number of leading School Boards in Ontario as the best.

NEARLY EVERY TEACHERS' CONVENTION where the question has been settled, approve of the Canadian Readers.

FIFTH EDITION. REVISED AND CORRECTED.

GAGE'S PRACTICAL SPELLER,

—SUITABLE FOR—

HIGH AND PUBLIC SCHOOLS.

A SERIES OF GRADED LESSONS, CONTAINING:

The Words in General Use, with Abbreviations, etc.; Words of Similar Pronunciation and Different Spelling; a Collection of the most Difficult Words in the Language; and a Number of Literary Selections, which may be used for Dictation Lessons, and Committed to Memory by the Pupils.

FIFTH EDITION PRICE, 30 CENTS.

In order that this popular Manual for Spelling and Dictation should be entirely free from errors, we have had the plates recast, and at the same time had the proofs read by the best authority on the American Continent—a gentleman whose experience as proof reader of Worcester's and Webster's Dictionaries, is a guarantee of perfect accuracy.

GAGE'S PRACTICAL SPELLER

is now the most correct Manual of Spelling offered to Canadian teachers. It is printed from entirely new plates, on beautifully tinted and callendered paper.

No other Book now gives such satisfactory Results in the Schools.

Teachers, Parents and Pupils are delighted with it. We ask the Teacher to examine it.

GAGE'S PRACTICAL SPELLER

IS NOW USED In many of the best Schools of Ontario.
In many of the best Schools of Montreal and Province of Quebec.
In a large number of the Schools of Nova Scotia.
In the Schools of Winnipeg and the Province of Manitoba.

ONTARIO.—"Mr. Reed, H. S. Master, heartily recommends the work, and ordered some sixty copies."—*Mt. Forest Advocate.*
"Every teacher should introduce it into his classes."—*Canadian Statesman*, Bowmanville.

QUEBEC.—"We have decided to use it in our High Schools."—*Dr. Robins*, Supt. Education, Montreal.
Please send us 100 copies."—*Dawson & Co.*, Quebec.

NOVA SCOTIA.—"It is away ahead of any Speller we have yet seen."—*Colchester Sun*, Nova Scotia.
"Send us 500 copies, with our imprint."—*D. H. Smith & Co.*, Booksellers, Truro.

MANITOBA.—Authorized for use in the Schools by the Board of Education.

EAGLE PENCILS

Have received PRIZE MEDALS Wherever exhibited.

HIGHEST AWARD at Philadelphia, 1876, for CHEAPNESS & GOOD QUALITY.

For School Use the "EAGLE ACADEMIC" Are Unequalled.

EAGLE ACADEMIC Extra Soft

Very Firm and Durable, but not Brittle.

From CHARLES ROBINSON, *De Witt, Ia.*, "Your Pencils point as firm as a rock and write as smooth as oil." *Nov.* 22, 1880.

Very Smooth and Black, but do not Crumble.

EAGLE ACADEMIC Soft

Accurate in Grade: Always Reliable

From E. W. TARRANT, A.M., *Prin. Meth. Dist. High School, Black Hawk, Miss.*: "I am always pleased when ve one of your excellent 'Soft Medium' with which to write." *Januar, 1881.*

Pure Graphite and Straight-Grained Cedar.

EAGLE ACADEMIC Soft Medium

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FROM THE PREFACE.

The High School Section of the "Ontario Teachers' Association" passed a resolution in August, 1882, which called attention to the unsuitable character of the English Histories at present in use in the Public Schools of Ontario. This work has been prepared to supply the need thus pointed out, and in response to many kind requests made by prominent teachers throughout the province.

The admirable history written by the late Mr. Green has done a most excellent work in improving the character of the teaching of history. It is, however, too large for use in Public Schools, and it cannot be fully understood and appreciated until the student has in some other way become acquainted with a general but comprehensive sketch of English History. It has been the object of the writer to present the chronological framework, and the leading elements that make up the true history of the nation, in such a manner as to give the student a clear understanding of each department of the subject, and especially of its relationship to the other departments and to the organic whole.

The topical plan of treatment has been adopted, as the simplest, the most philosophical, and the most practical. In teaching, and especially in reviewing, it is hoped that teachers may find the work of special value to their pupils.

The division into periods, on the basis of the number five, is adopted from Dr. Vincent, and where differences in names and spelling are found in different histories, Green has generally been followed.

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FROM THE PREFACE.

This little book has been issued at the request of many persons either engaged, or interested, in the teaching of English Grammar. The thanks of the Publishers are due to the following gentlemen for their kindness in furnishing material:—Wm. McBride, M.A., Richmond-Hill; O. J. Page, M.A., Strathroy; J. E. Dickson, M.A., Newmarket; H. B. Spotton, M.A., Barrie; N. J. Wellwood, M.A., Oakville; H. E. Kennedy, B.A., Brenton; David Hicks, B.A., Newburgh; Jno. Houston, B.A., London, Inspector Knight, Lindsay; A. W. A. Finlay, B.A., Chatham; J. D. Bissonnette, M.A., Dundas; J. W. Connor, M.A., Berlin; A. McIntosh, Brantford; and J. H. Long, M.A., Walkerton. Besides the examples contributed by these practical teachers, the book contains a great many that have been taken from Lennie, Fleming, Bain, and Goold Brown. The exercises in Part I. (in press) are accompanied by references to standard grammars.

NOTE FROM PUBLISHERS.—Owing to a change in our Editorial staff, the list of names of a number of persons who kindly contributed to this primer has unfortunately been mislaid, so that we are unable to give a complete acknowledgement. We shall esteem it as a favor if friends who were good enough to aid us by contributions for this little work, will kindly send us a note to that effect, so that we can properly acknowledge their co-operation.

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The Canada School Journal.

VOL. VIII. TORONTO, DECEMBER, 1883. No. 77.

EDUCATIONAL CHANGES IN NORTH WEST.—THE PAST AND THE PRESENT.

REV. W. CYPRIAN PINKHAM.

The Rev. W. Cyprian Pinkham was born at St. John's, Newoundland, and received his education at the Church of England Academy there. After teaching for some time in one of the public schools of the island, he proceeded to Canterbury, completed his education at St. Augustine's, and took his diploma in 1868. Immediately afterward, he left for the Red River settlement to take the incumbency of St. James. At that time the only other Protestant Missions in the settlement were the present Bishop of Saskatchewan, then rector of St. John's Cathedral, Rev. Geo. Young, Methodist Minister, Rev. John Black (Presb.), of Kildonan, Rev. S. Pritchard, assistant master in the college school, and the present Bishop of Rupert's Land. Beside his work at St. James, Mr. Pinkham travelled on ministerial duty to various parts of the province on mission work, principally to Headingly, Victoria, and Morris.

In 1871, after the passing of the first school law, the Board of Education was constituted, consisting of the Bishop of Rupert's Land, Rev. John Black, Rev. Geo. Young, Rev. W. C. Pinkham, Hon. John Norquay, Dr. Bird, and Mr. St. John ; the last of these was the first Protestant Superintendent, but he, leaving soon afterwards for Ontario on a visit, Mr. Pinkham performed his duties in his absence and ultimately succeeded him on his retirement. Since that time he has held the office, and, in conjunction with His Grace the Archbishop of St. Boniface, has done more than any other man in bringing education in Manitoba to its present high standard of efficiency. By prudence and tact, the jars and contentions so prevalent in older communities between Catholic and Protestant interests in educational administration have been happily avoided, mutual concessions, without sacrifice of principle, having been brought to bear to accomplish this desirable end.

REV. W. CYPRIAN PINKHAM.

JOHN B. SOMERSET, ESQ.

In addition to his guidance of the interests common to schoo education, those of secondary and higher education have also engaged Mr. Pinkham's attention. He is the author of the present system of high school education in the province, where by which preparation for the University and for the higher teachers' examinations is provided for ; he has also initiated the system of normal training for teachers at present in use. In 1878 he was elected the first representative of the Board of Education on the Council of the University, a position which he still holds ; he is also a member of the University Board of Studies. In 1879 he was invested with the degree of B.D. by the Archbishop of Canterbury, in recognition of his services in the cause of education; in 1881 he was appointed Archdeacon

of Manitoba and was elected secretary of the Diocesan Synod and of the Mission Board.

In 1882 the rapid increase of the population of the province and the consequently increased demands upon his energies, both by his church and educational work, compelled Mr. Pinkham to consider the necessity of confining his attention to one of the two spheres exclusively. His career as Superintendent had been so successful and its influence so universally recognized that it was hoped that he would see his way to devote himself to the educational part of his work exclusively, as the Rev. Dr. Ryerson had done in Ontario; but the claims of his church work were no less pressing, and his labors there had rendered his continuance in it no less essential.

Under these circumstances Mr. Pinkham placed himself unreservedly in the hands of his church to decide what course was best to be taken. After full consideration it was decided that his services could not be spared from the church, and he, recognizing the higher call of duty to lie there, placed his resignation as Superintendent of Education in the hands of the Government in July last. The Government, after an unsuccessful attempt to prevail upon him to recall his decision, at length reluctantly accepted his resignation.

During the twelve years of his Superintendency, Mr. Pinkham has won golden opinions from every one who came in contact with him; his unfailing courtesy, his uniform evenness of temper, and his thorough administrative ability enabled him to guide the educational affairs of Manitoba through the most critical period of their existence, and he leaves them to his successor with few complicated problems to solve and with little but natural growth and expansion to develop into a perfect system.

JOHN B. SOMERSET, ESQ.,

SUPERINTENDENT OF EDUCATION FOR PROTESTANT SCHOOLS, MANITOBA.

Mr. Somerset was born in West Meath, Ireland, in 1843, and received his education as well as his training as teacher in the endowed college at Multifarnham, in which he ultimately became one of the masters. He removed to Canada in 1861, and entered upon school teaching, which he followed without intermission until 1871.

During this period he took charge of rural village and city schools at various points in Ontario, and was engaged as principal of St. George's School, St. Catharines, when the new law regarding the efficient inspection of schools came into operation. He was then chosen as the first inspector for the County of Lincoln, which position he held for upwards of ten years, during which he was successful in effecting many and radical reforms in the school accommodation and methods of teaching and management, but without exciting hostility or giving rise to any jar or complaint from any quarter.

His relations with the teachers were of the most cordial nature, and he was the recipient of many tokens of their appreciation and esteem. On his retirement from the position in January, 1882, to take that of Inspector for the City of Winnipeg, the County Council unanimously passed the following resolution:—"That this Council hereby express their deep regret at parting with their late public school inspector, John B. Somerset. During the long term of years that he has been connected with this Council in an official capacity, it has been most pleasing to them to meet and to do business with him. By strict attention to his duties, he has won the confidence of all with whom he has come in contact, and his work and influence have assisted very materially in advancing the standard of public school work in this country."

The nature of the work in his new sphere of labor as inspector, in the rising city of Winnipeg, where the school population more than doubled in the space of twelve months, called for peculiar powers of organization and management. That such were displayed by Mr. Somerset during his charge of the city schools is sufficiently demonstrated by his selection by the Provincial Government to fill the important position vacated by Archdeacon Pinkham, who also emphatically recommended this step before his retirement.

In his new sphere, Mr. Somerset will have scope for the further display of his ability as an organizer and manager, and of applying his practical acquaintance with all the branches of school work to the development of the school system of the Prairie Province.

THE JOURNAL.

During the past few months the JOURNAL has received compliments from powerful contemporaries. In England the *School Guardian* and the *Schoolmaster*, and in the United States the *New England Journal of Education*, the *Virginia School Journal*, and the *Penman's Art Journal* have each done us the honor of reproducing in their columns different articles from our editorial pages. The independent and impartial proof thus given of the progressive character of this periodical, by the greatest educational papers in our language, needs no comment. We modestly accept the judgment of our elder brethren and refrain from expressing our gratification. We mean to advance where the finger of destiny points our way, and become the greatest educational journal north of the Tropic of Capricorn. Friends and fellow-laborers, rally round your professional journal and assist us with tongue and pen. The field is wide, and the good work calls for self-sacrificing labor. Speak a word in season for the JOURNAL, which will continue as in the past true to the highest interests of the teacher. Deeply as we are indebted to our friends, from Halifax to Victoria, we confidently call for more help to make our pages bright, fresh, and vigorous. Send us something brief and pointed; let us hear all the news. United in a common feeling of brotherhood, the teachers of this Dominion will be able to wield an influence that will make itself felt. By constant intercommunication through the pages of the JOURNAL teachers may

> "Daily derive increasing light and force,
> Feel less the journey's roughness and its length,
> Meet their opposers with united strength,
> And, one in heart, in interest and design,
> Gird up each other to the race divine."

Speak a word in season for the *Journal*.
Note down your experience for the *Journal*.

BANQUET TO DR. RAND.

A complimentary banquet was given to Dr. Rand by the citizens of Fredericton on Nov. 1st. It was a thoroughly representative assembly, and included members of the government, the bench, the bar, in fact, educated men from all professions. It was a demonstration in which any man in Dr. Rand's position might well feel an honest pride and satisfaction. In leaving the post of Chief Superintendent of Education for New Brunswick to become Professor of the Principles and Practice of Education in Acadia College, Dr. Rand leaves a field of labor where the nature of his work exposed him to a good deal of criticism. He now goes to act the part of pioneer professor of his subject in this Dominion. The demonstration held in his honor must be a great encouragement to him and a source of strength. We have lately been agitating for the establishment of such a chair in Ontario, and we shall watch with interest the result of Dr. Rand's labors in New Brunswick. Meanwhile we join our congratulations with those of his numerous friends in wishing him God speed in the noble work to which he has put his hand. We shall give Dr. Rand's speech in a future issue of the JOURNAL.

THE MINISTER OF EDUCATION.

The friends of the Hon. Adam Crooks have been disappointed in their hope that change and rest would bring about the restoration of his impaired health, and he has retired from the Education Department by the advice of his physicians. His administration of educational affairs—the first under the new order of things—though marked by some mistakes, will be generally conceded to have been thoroughly honest, and the retiring Minister will be remembered for a vast amount of conscientious hard work.

The appointment of G. W. Ross, LL.B., whose career we recently sketched in these columns, must give general satisfaction in educational circles. He certainly represents the educational interests of the country as they were never before represented in the Government; for in him the enthusiastic educationist has never for a moment been obscured by the successful politician. In the public school branch of his work, which concerns the great mass of the population, he has passed through a most thorough training for the duties of his new office, and already possesses a more minute knowledge of details than could be acquired by a merely political minister in many years. With secondary and higher education all his antecedents prove him to be in full sympathy, and we feel sure that these important departments will be safe in his hands. Mr. Ross will have the benefit of the experience and counsel of experts like Prof. Young Dr. McLellan, and other members of the Central Committee, who are as thoroughly acquainted with university and high school matters as he himself is with the public and the model schools. We can fully rely on his shrewd and practical mind to avail itself of the assistance such veteran educationists can afford, and we have not the least doubt that in the higher, the secondary and the primary departments of our educational system, the new Minister will pursue a liberal and enlightened policy of administration. In the matter of providing well-trained teachers for our public schools we look to the new Minister, as himself a trained teacher, with hope and confidence. Every other educational reform sinks into insignificance before the imperious necessity of providing the very best elementary schools; and the teacher is the school. On the perfection of primary instruction rests the success of high schools and colleges. We anticipate from the well-known energy and decision of Mr. Ross some important steps in this direction, which will bring our Normal Schools up fully abreast of the times, and set free the wheels of educational progress. From the teachers' standpoint, an epoch in the history of educational effort is marked by the appointment of their President as head of the Education Department. The accession of Mr. Ross will be a source of unmingled pleasure to educationists throughout the Dominion, and a gratification to every teacher in his native province.

SCHOOL EXHIBITIONS.

The old-fashioned school examination recedes more and more into the dim vista of the past. Memoriter exercises, such as oral spelling and lists of dates, more and more give way to really intellectual, educative work. Very many teachers have fallen in with the idea of having a school exhibition of the everyday work of their pupils, and have found it a powerful stimulus,—far more powerful indeed than the old-time examination at which the biggest dunces too often made the best show by sheer lack of modesty. The real intelligence of the school is very commonly a failure at amateur theatricals, while ignorance combined with immense self-confidence just as frequently bears away the palm before the popular audience.

It is part of a teacher's duty to arrange matters so that laziness cannot overmatch industry. The school exhibition materially aids in that direction. A full exhibit of everyday school work such as drawing, arithmetic, penmanship, bookkeeping, geometry, algebra, map-drawing, every sort of exercises that can be put on paper, may take a month's work of the school to prepare. If pupils are also trained to put such work on the blackboards under the eyes of the visitors great power will be gained. A reasonable amount of music, recitation, reading, and class examination combined with the exhibit will make a thoroughly rational and interesting day, and will do much to redeem the schools from the imputation that much of their work is of an unpractical kind.

If you want to capture that unpromising boy ask him to assist you in placing these exercises tastefully on the walls. If you wish to treble your influence and multiply your teaching power get every pupil into active co-operation with you to carry out some scheme in which he feels interested. The school exhibition is one means among many others by which the teacher may get at the hearts of his pupils and mould them successfully. Education proceeds from within; unless we can get within, and kindle the fire of interest, all our doing will be dead mechanical exercise and result in nothing. A teacher may often

put the "come 'ither" on some opponent in the section by a skilful use of the school exhibition, and some of these hard headed men are worth winning over for the sake of securing their co-operation. On the whole, we heartily commend teachers to try the plan thoroughly and let us know the result. It seems to us capable of further development. Let us have it worked out, and its full powers tested.

Our English exchanges are almost filled with the New Code, Mr. Mundella, over-pressure, the compulsory clause, the Government grant, the Board Schools, and such topics. The whole country seems to have the growing pains since the new school law has come into force. The compulsory clause is no dead letter, as may be judged by the fact that in one place a number of parents have formed a sort of club for the purpose of paying the fines. The London School Board seems to take the lead, and its proceedings are carefully reported and most actively criticised. No doubt the present friction will gradually wear off, and matters will soon settle down into their normal condition. In a recent conversation with a member of the Liverpool School Board we found great enthusiasm for Mr. Mundella and the grand educational reform he is working out. The Board schools seem to be winning their way rapidly, and the denominational schools find it necessary to conform themselves to the new standards of the national schools in order to hold their ground. This honorable rivalry must have the effect of a revolution in the elementary schools of England.

THE UNIVERSITY QUESTION.

The number of students in actual attendance at Toronto University in 1882 was 407. With the remarkable and steady annual increase in the number of its students has come a stronger and stronger demand for greater differentiation in the honor courses of study, and increased teaching power to meet the wants of the present classes. In the department of Modern Languages particularly, increased facilities are imperative. The Senate has already resolved to recommend the appointment of a professor of Romance Languages. German and English plainly require a professor of Teutonic Languages, and the department of Political Science has never, so far, had either professor or tutor in University College. Political economy, jurisprudence, and constitutional history certainly demand a teacher so that not less than three new professors are immediately required to keep the College at all abreast of our own times.

The financial question is the only obstacle to immediate action. The Senate has intimated its intention of asking the Legislature for further pecuniary aid to carry out these much needed reforms. But to this proposal the heads of Queen's, Victoria, and Trinity emphatically demur, on the ground that as they are doing nearly half the university work of the province without provincial aid, their supporters will be twice taxed in aid of higher education, if further grants are made to the Provincial University. As the discussion progresses it becomes transparently manifest that the denominational colleges are moved by the fear of being overshadowed by the growing influence of Toronto University. It is equally manifest that they hope either to participate in the legislative grant or, failing in that, to cripple the resources of the University so as to make her a far less formidable rival than at present. It is very much to be lamented that those attacking the University have made many inaccurate and exaggerated statements, and have betrayed the heat of bitter partisans in the discussion, thus materially injuring their cause which claims justice while they employ unjust means to promote it.

On the other hand, the friends of Toronto University may as well admit that the diversion by the Legislature of between one hundred and two hundred thousand dollars of their original endowment to the support of Upper Canada College was a grand mistake by the Legislature, which it is bound to rectify. In applying for increased aid they may as well recognize the wide difference between a direct grant from the annual revenue and the re-granting of money which has been diverted from higher to *secondary* education, and is now comparatively thrown away in providing for secondary education already secured by an annual grant of about $80,000 to High Schools. They might safely join hands here with their opponents in firmly demanding that the Legislature should apply to *higher education* all the funds arising from the original 500,000 acres of land granted for the support of *higher education.*

Upper Canada College is an anomaly in our system, and has outlived its mission by half a generation at least. The press outside of Toronto is a unit on the question of its continuance The verdict was pronounced years ago, and time will certainly see the voice of the people obeyed, if not by the present Government at least by their early successors. This is the one point of union in the present discussion, and the interests of peace and of higher education demand concerted action. The best friends of the denominational colleges will not fling charges of inefficiency, godlessness, etc., at the Toronto University, but will study the interests of higher education in the catholic spirit, and seize on points of agreement first, and ensure the initial step towards the adjustment of all differences.

While this province maintains jails for criminals with all modern improvements, there is little fear that an institution for higher education like Toronto University will be allowed to fall into decay for the lack of proper support by the Legislature. The question will be met and solved; the mere details of ways and means are quite secondary. Let the friends of higher education lay aside all jealousy and unite heartily on common ground, assured that whatever contributes to the general end can never be a real injury to them.

Who will say the teacher's mission
Is not one of hope and love?
Who will say no joys elysian
Wait him in his home above?

—*Heart Problems.*

ENTRANCE EXAMINATIONS.

A resolution lately passed by the Durham Teachers' Association affirms their solemn conviction that the High School Inspectors are not precisely the proper persons to set papers for Admission to High Schools. The light of Durham discovers to us that this work would be better done *by persons actively engaged in preparing pupils for these examinations;* for example, a couple of Public School Inspectors assisted by Public School Teachers. In other words, this new light shows us the model of an additional wheel to be added to our educational machinery, the hub of said wheel being of a distinct pattern.

The Durham illumination bears the tinge of its source, and is not likely to mislead. If the High School Inspectors are competent to examine pupils after spending several years' hard study in the high school, surely they are qualified to examine these pupils for admission. If the inspectors are incompetent, let us get men who understand their business. In the meantime, we respectfully submit to the assembled wisdom of Durham that their resolution bears on the face of it just the least trace of absurdity. On the same ground of reasoning, Public School Inspectors had better hand the promotion examinations over to wiser men, and the universities their matriculations to a committee of High School Masters. The resolution flies in the face of our educational history. We commend Prof. G. P. Young's Report for 1866 to the perusal of our friends, and the various discussions that have taken place regarding teachers and professors becoming examiners of their own candidates. With this additional light the present Jack o' the lantern will disappear.

INSPECTOR DEWAR.

e regret very much the resignation of Inspector Dewar of East Huron. His health has been somewhat impaired for two years past, but his numerous friends looked forward to many years' service from the genial and popular Inspector. He has been a faithful officer, and well deserved the handsome gold watch, chain, and illuminated address presented to him some years since by the teachers of his extensive district. His determined energy has secured him success as student, teacher, and inspector in the face of more than ordinary difficulties. We sincerely hope that he may shortly recover his wonted health, and resume educational work, to which more than thirty of the best years of his life have been devoted.

Mr. D. M. Malloch, for many years principal of the Clinton public schools, has been appointed successor to his old classmate. A better appointment could not have been made, as Inspector Malloch has been a diligent student as well as a successful teacher. He comes to his office with matured judgment, ripe experience, and an extensive acquaintance with the philosophy of things educational.

In this wide world the fondest and the best
Are the most tried, most troubled and distressed.
—*Crabbe.*

Mathematical Department.

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   = $\$29027.84\frac{1}{6}$.

4. Distance round the field = $(63.5 + 27.75) \times 2 = 182.5$ rods.
   ∴ Cost = $\$1.75 \times 182.5 = \$319.375$.

5. (*a*) $= \frac{362880 - 60480 + 15120 - 4392 + 1385}{362880} = \frac{314513}{362880}$.
   (*b*) $= \frac{4\frac{7}{10} + 5\frac{9}{11} - 2\frac{1}{2}}{\frac{752}{11}} = \frac{8\frac{1}{55}}{\frac{752}{11}} = \frac{441}{3760}$.

6. Gunpowder { Nitre 15 parts in 20 = $\frac{15}{20}$ or $\frac{3}{4}$ of powder.
   Charcoal 3 " 20 = $\frac{3}{20}$ "
   Sulphur 2 " 20 = $\frac{2}{20}$ or $\frac{1}{10}$ "
   When 20cwt. = charcoal, 20cwt. × $\frac{20}{3}$ = $133\frac{1}{3}$cwt. is wt. of pdr.
   Nitre = $\frac{3}{4}$ of $133\frac{1}{3} = 100$cwt.
   Sulphur = $\frac{1}{10}$ of $133\frac{1}{3} = 13\frac{1}{3}$cwt.

7. Cost of wine $\$2.60 \times 360 = \$$ 936.00.
   carriage = 17.20.
   duties = 86.50.
   Total cost = $1039.70.
   gain = 50.00.
   S. price = $1089.70.
   He must sell rem'dr which is $\frac{17}{20}$ of 360 = 306 gals. for $1089.70.
   ∴ He sells 1 gal. for $1089.70 ÷ 306 = $\$3.56\frac{1}{9}$.

8. From January 3rd to April 6th = 93 days.
   Interest = $257.81 \times \frac{93}{365} \times \frac{8}{100} = \$5.25\frac{4647}{9125}$.

9. Seconds' pendulum = 39.37079 inches.
   1 metre = $\frac{70}{64}$ yds. = $\frac{70}{64} \times 36$ inches = 39.375 "
   Difference = .00421 inches.

10. (1) Min. hand in going 12 min. gains 11 min. on hour hand.
   ∴ As it has to gain 20′ it must go $\frac{12}{11} \times 20 = 21\frac{9}{11}$ min.
   ∴ They are coincident at $21\frac{9}{11}$ min. after 4 o'clock.
   (2) To be at right angles there must be 15 min. spaces between min. and hr. hands. As there are 20 min. spaces between them at 3 o'clock the min. hand must gain 5 min.
   It gains 5 min. in $\frac{12}{11} \times 5 = 5\frac{5}{11}$ min.
   ∴ $5\frac{5}{11}$ min. after 4 they are at right angles.

FIRST CLASS TEACHERS—GRADE C—JULY, 1883.

ALGEBRA.

TIME—THREE HOURS.

1. If $x^n + ax^{n-1} + \ldots\ldots + sx + t = 0$, explain the principle upon which we proceed to find, if possible, a rational binomial divisor.
   Find three such divisors in the equation,
   $$x^6 - 4x^5 - 6x^4 + 18x^3 + 17x^2 + 22x + 24 = 0.$$

2. Express $m^4-4m^3n+5m^2n^2-2mn^3+n^4$ as a rational integral function of p and n, where $p=m-n$.

3. If y is a rational integral function of x, and y becomes zero when a is substituted for x, prove that $x-a$ is a factor of y.

Resolve into factors—

$$x^3-\{a(a-b)+b(b-c)+c(c-a)\}x+\{ab(a-b)+bc(b-c)+ca(c-a)\}$$

4. If $\frac{a}{b}=\frac{c}{d}$ prove that $\frac{ma+nb}{ma-nb}=\frac{mc+nd}{mc-nd}$.

If
$$\frac{x^2+\left\{\frac{m+n}{m-n}+\frac{m-n}{m+n}\right\}xy+y^2}{x^2+\left\{\frac{m+n}{m-n}-\frac{m-n}{m+n}\right\}xy-y^2}=\frac{v+1}{v-1}$$

find the simplest expression for the value of v.

5. What is a ratio? Does the ratio of two quantities depend upon their magnitude?

Given $y^4+x^3y-a^2x^2=0$, to find the ratio of x to y when x becomes indefinitely great.

6. What is meant by a *maximum* or *minimum* solution?

It is required to divide a number a into two parts such that the quotient arising from dividing their product by the sum of their squares may be a minimum. Determine the quotient, and the division of the number required to produce it.

7. In an arithmetic series, find an expression giving the last term in terms of the first term the common difference and the sum of the series.

The nth terms of two *A.P.'s* are respectively $\frac{1}{3}(n+2)$ and $\frac{1}{2}(3n-1)$. The same number of terms being taken in each series, what is the number when the sum of the second series is four times that of the first?

What is the *greatest* ratio of the sum of any number of terms of the second series to the sum of the same number of terms of the first?

8. The attraction of a planet upon a body at its surface varies directly as the planet's mass and inversely as the square of its radius. The length of a pendulum varies directly as the attraction and inversely as the square of the number of beats which it makes in a given time. The mass of the earth being 75 and of the moon 1, the radius of the earth 4,000 miles and of the moon 1,100, and the length of a pendulum which beats 5 times in 2 seconds at the earth's surface being 6.26 in., find the length of a second's pendulum at the moon's surface.

9. From a company of 15 men 6 are selected each night as a guard. How often, respectively, will A and B be together (1) with C? (2) without C? (3) with C or D? (4) with C and D?

10. Given $x^2+\frac{a-b}{ab}x+\frac{ab}{a-b}=0$.

(1) Express b in terms of a when the two values of x are (α) equal in magnitude and opposite in signs; (β) equal in magnitude and of like signs.

(2) If x_1 x_2 be the roots, express the value of

$$\frac{1}{x_1}+\frac{1}{x_2} \text{ in terms of } a \text{ and } b.$$

SOLUTIONS—BY OUR CORRESPONDENT D.

1. A rational binomial factor is of the form $x+a$, and if several such be multiplied together, as $(x+a)(x+b)(x+c)\ldots$, the independent term will consist of the constant product $abc\ldots$.

∴ In our search for factors, we employ only factors of the independent term.

Again, if the whole expression becomes zero, one of the factors at least, $x+a$ say, must be zero, and therefore $x=-a$.

Hence a quantity which when substituted for x in the given expression renders its value zero, is itself the second term, with sign changed, of a binomial factor.

Example—The factors of 24 are ±1, ±2, ±3, ±4, ±6, ±12, ±24; and upon trial the expression vanishes when -1, -2, 3 or 4 is substituted for x.

∴ $x+1$, $x+2$, $x-3$, $x-4$ are four binomial factors.

2. Since the required expression is to be a function of p and n only, m must not appear. Now $m=p+n$, and writing this value for m, we have

$$(p+n)^4-4(p+n)^3n+5(p+n)^2n^2-2(p+n)n^3+n^4;$$

which being expanded and reduced, give, $p^4-p^2n^2+n^4$, as the required expression.

3. Let $y=px^n+qx^{n-1}+\ldots ux+v$.

Then by the question, $o=pa^n+qa^{n-1}+\ldots ua+v$.

Subtracting the second of these expressions from the first,

$$y=p(x^n-a^n)+q(x^{n-1}-a^{n-1})+\ldots u(x-a)$$

an expression which is divisible by $x-a$, since every term is divisible by that quantity,

∴ y is divisible by $x-a$.

Example—This expression is of the form x^3+ox^2+qa+x,

Where $q=-a(a-b)-b(b-c)-c(c-a)$,
$=ab-a^2+bc-b^2+ca-c^2$,
and $v=ab-(a-b)+bc(b-c)+ca(c-a)$.

Substituting b for a in the expression for v it becomes zero;

∴ $a-b$, and from symmetry $b-c$, $c-a$, are factors of v, and we readily find, $v=-(a-b)(b-c)(c-a)$.

If the expression can be factored, then, the factors are of the form $x-(a-b)$, $x-(b-c)$, and $x-(c-a)$; and since

$(a-b)+(b-c)+(c-a)=0$,

and $(a-b)(b-c)+(b-c)(c-a)+(c-a)(a-b)=9$,

∴ $\{x-(a-b)\}$ $\{x-(b-c)\}$ $\{x-(c-a)\}$ are the factors req'd.

4. Since $\frac{a}{b}=\frac{c}{d}$ ∴ $\frac{a}{c}=\frac{b}{d}$.

Let $\frac{a}{c}=\frac{b}{d}=z$.

Then $a=cz$ and $ma=mcz$,
$b=dz$ and $nb=ndz$.

Adding and subtracting,

$ma+nb=(mc+nd)z$,
$ma-nb=(mc-nd)z$;

∴ by division,

$$\frac{ma+nb}{ma-nb}=\frac{mc+nd}{mc-nd}.$$

(2) The first fraction is evidently,

$$\frac{\left(x+\frac{m+n}{m-n}.y\right)\left(x+\frac{m-n}{m+n}.y\right)}{\left(x+\frac{m+n}{m-n}.y\right)\left(x-\frac{m-n}{m+n}.y\right)}$$

Since the product of the coefficients of y is unity, and their sum or difference is the coefficient of xy,

$$\therefore \quad \frac{x+\frac{m-n}{m+n}.y}{x-\frac{m-n}{m+n}.y}=\frac{v+1}{v-1}$$

Adding and subtracting numerators and denominators,

$$\frac{x}{\frac{m-n}{m+n}.y}=v=\frac{x}{y}\cdot\frac{m+n}{m-n}.$$

5. The ratio of one quantity to another is the quotient arising from dividing the former quantity by the latter.

(This being an Algebra paper the definition of a geometrical ratio is not required.)

Ratio depends upon the *relative* but not upon the *absolute* magnitudes of the quantities concerned.

Example—Divide through by x^4,

$$\text{Then } \frac{y^4}{x^4}+\frac{y}{x}-\frac{a^2}{x^2}=0.$$

Now a being finite while x becomes indefinitely great, $\frac{a^2}{x^2}$ becomes indefinitely small and may be rejected.

$$\therefore \quad \frac{y^4}{x^4}=-\frac{y}{x} \text{ when } x=\infty.$$

Divide throughout by $\frac{y}{x}$,

Then $\frac{y^3}{x^3}=-1$, and $\frac{y}{x}=0$, (since we div by it) when $x=\infty$;

$\therefore \quad \frac{y}{x}=\sqrt[3]{-1}$, one root of which is -1, and also $\frac{y}{x}=0$.

∴ The ratio of x to y when x becomes indefinitely great is

$$\frac{x}{y}=-1, \text{or } \frac{x}{y}=0.$$

(This question being a biquadratic in y, that letter has four values for any given value of x; for that particular value of x characterized by $x=\infty$, the two real values of y are $y=-\infty$, and $y=0$.)

6. If y be a function of x, and if for consecutive values of x, y at first increases and then decreases, that value of x for which y ceases to increase and begins to decrease is a *maximum* solution. If y at first decreases and then increases, that value of x for which y ceases to decrease and begins to increase is a *minimum* solution.

Example—Let a be the number and x one of the parts;

$$\text{Then } \frac{x(a-x)}{x^2+(a-x)^2} \text{ is the given function}=y;$$

$$\text{Whence } x=\frac{2ay+a\pm\sqrt{(a^2-4a^2y^2)}}{2(1+2y)}.$$

Now on account of the radical y cannot be increased indefinitely without giving rise to an imaginary expression, and it therefore has a maximum value, which occurs when $a^2-4a^2y^2=0$, or $y=\frac{1}{2}$.

$$\text{Whence } x=\frac{a+a}{2(1+1)}=\frac{a}{2} \text{ for a maximum.}$$

∴ The number must be halved, and the quotient arising from dividing the product of the parts by the sum of the squares takes then its maximum value of one-half.

(This question should have read.....“by the sum of their squares may be a *maximum or a minimum.*” It could not however mislead, since it is by the solution itself that we determine algebraically which solution the question admits of.)

7. (1) The fundamental formulæ in $A.P$ are $S=\frac{n}{2}\{2a+(n-1.)d\}$, and $z=a+(n-1.)d$; from which we must eliminate n since z is to be expressed in terms of a, d, and s.

$$\text{From the second } n=\frac{z-a}{d}+1;$$

and this substituted in the first gives—

$$s=\frac{z-a+d}{2d}(2a+z-a);$$

whence by solution—

$$z=-\frac{d}{2}\pm\tfrac{1}{2}\sqrt{\{4a^2+(8s+4a+d)d\}}.$$

(2) As the nth term is *any* term we obtain the terms of the series by putting 1, 2, 3, &c. for n in the formula for the nth term.

Now nth term of first series$=\frac{1}{3}(n+2)$,
∴ First " " " $=1$,
and sec'd " " " $=1\frac{1}{3}$,
∴ $a=1$, and $d=\frac{1}{3}$.
Similarly for the second series, we find
$a_1=1$, and $d_1=\frac{3}{2}$.
Then for the sums of n terms

$$s=\frac{n}{2}\{2a+(n-1.)d\}=\frac{n}{2}\{2+\tfrac{1}{3}(n-1)\}.$$

$$s_1=\frac{n}{2}\{2a_1+(n-1.)d_1\}=\frac{n}{2}\{2+\tfrac{3}{2}(n-1)\}.$$

and the second of these is to be four times the first;

$$\therefore \quad 2+\tfrac{3}{2}(n-1)=4\{2+\tfrac{1}{3}(n-1)\}$$

from which $n=37=$ number of terms.

$$(3) \qquad \frac{s_1}{s}=\frac{2+\frac{3}{2}(n-1)}{2+\frac{1}{3}(n-1)}=\frac{3+9n}{10+2n};$$

a ratio which increases as n increases. Dividing by n numerator and denominator, and then making $n=\infty$ we obtain,

$$\frac{s_1}{s}=\frac{9}{2}=4\tfrac{1}{2} \text{ as the greatest ratio.}$$

8. Let a=earth's attraction, m=its mass, r=its radius, l=the length of a given pendulum at its surface, and n=the number of beats made per second by that pendulum; and let a_1, m_1, r_1, l_1, and n_1 denote like quantities with respect to the moon.

$$\text{Since } a \text{ varies as } \frac{m}{r^2}, \text{ we may write } a=\frac{pm}{r^2},$$

where p is an unknown but constant factor.

$$\text{Similarly, } a_1=\frac{pm_1}{r_1^2};$$

$$\therefore \quad \frac{a}{a_1}=\frac{m}{m_1}\left(\frac{r_1}{r}\right)^2.$$

$$\text{As } l \text{ varies as } \frac{a}{n^2}, \text{ we write } l=\frac{qa}{n^2}.$$

$$\text{Similarly } l_1=\frac{qa_1}{n_1^2};$$

$$\therefore \quad \frac{l_1}{l}=\frac{a_1}{a}\left(\frac{n}{n_1}\right)^2=\frac{m_1}{m}\left(\frac{r}{r_1}\right)^2\left(\frac{n}{n_1}\right)^2;$$

$$\therefore \quad l_1=l\cdot\frac{m_1}{m}\left(\frac{rn}{r_1n_1}\right)^2.$$

Now $l=6.26$, $m=75$, $r=4000$, $n=\frac{5}{2}$, $m_1=1$, $r_1=1100$, & $n_1=1$.

$$\therefore \quad l_1=6.26\times\tfrac{1}{75}\left(\tfrac{100}{11}\right)^2=6.9 \text{ inches nearly.}$$

9. Let nCr denote the combinations of n things taken r together.
Then A and B are together $13C_4$ times$=715$,
and A, B, & C " $12C_3=220$ times (1)
∴ A and B without C $=495$ " (2)
A, B, C, and D are together $11C_2$ times$=55$ times (4)
But A, B, and C are together 220 times;
∴ A, B, and C will be together when D is absent $220-55$ times $=165$ times.

Similarly A, B, and D will be together when C is absent 165 times; ∴ A and B will be together with C or D, but not with both, $2\times165=330$ times (3).

10. (1) (α) In this case the coefficient of x must be zero;

$$\therefore \quad \frac{a-b}{ab}=0, \quad \text{whence } a=b.$$

(β) In this case the expression must be a complete square, and hence $\left(\frac{a-b}{ab}\right)^2=\frac{4ab}{a-b}$,

$$\therefore \quad \left(\frac{a-b}{ab}\right)^3=4, \text{ or } \frac{1}{b}-\frac{1}{a}=\sqrt[3]{4},$$

$$\therefore \quad \frac{1}{b}=\sqrt[3]{4}+\frac{1}{a},$$

$$\therefore \quad b=\frac{1}{\sqrt[3]{4}+\frac{1}{a}}.$$

(2) Here $x_1x_2=\frac{ab}{a-b}$, and $x_1+x_2=-\frac{a-b}{ab}$;

$$\therefore \quad \frac{x_1+x_2}{x_1x_2}=\frac{1}{x_2}+\frac{1}{x_1}=-\frac{a-b}{ab}\cdot\frac{a-b}{ab}=-\left(\frac{a-b}{ab}\right)^2;$$

$$\text{or} \quad \frac{1}{x_1}+\frac{1}{x_2}=-\left(\frac{1}{b}-\frac{1}{a}\right)^2.$$

[NOTE.—We return cordial thanks to our valued correspondent, and hope to hear from him (or her ?) again.—Math. Ed.]

CENTRE OF GRAVITY.

In working problems engaging the centres of gravity of the cone, its frustra, the hemisphere, and segment of the sphere, I found it necessary to investigate where these centres are. The following formulæ result from my calculations, and may be new to many, as they were to me.

For the cone:—If m stands for the height of frustrum, b the diameter of less end, a that of the greater end, then the centre of gravity is—

$$\frac{m}{4}\times\frac{b^2+2ab+3a^2}{a^2+ab+b^2}=\text{distance centre of gravity from } b.$$

When $b=0$, the solid becomes a cone, its centre of gravity is $\frac{3}{4}m$.
The centre of gravity for the segment of a sphere is

$$\frac{8rv-3v^2}{12r-4v}, \ r=\text{radius and } v=\text{height.}$$

When $v=r$, centre of gravity is

$$\frac{8r^2-3r^2}{8r}=\tfrac{5}{8}r, \text{ or } \tfrac{3}{8}r, \text{ reckoned from centre of sphere.}$$

JOHN IRELAND, Fergus.

By Professor Sylvester, F.R.S.

If $x^3+y^3+z^3=3\mu xyz$, and $x^6+y^6+z^6-x^3z^3-z^3y^3-y^3x^3=0$; show that (1) the variables will bear 18 distinct ratios to each other, if their order be taken into account; and (2) if their order be disregarded, these are reducible to the three following ratios:—

$$(1+q)^{\frac{1}{3}}:(1+q\rho)^{\frac{1}{3}}:(1+q\rho^2)^{\frac{1}{3}},\quad (1+q)^{\frac{1}{3}}:(1+q\rho)^{\frac{1}{3}}\rho:(1+q\rho^2)^{\frac{1}{3}}\rho^2,$$
$$(1+q)^{\frac{1}{3}}:(1+q\rho)^{\frac{1}{3}}\rho^2:(1+q\rho^2)^{\frac{1}{3}}\rho,$$

where $$q=\left(\frac{27}{\mu^5}-1\right)^{\frac{1}{3}} \text{ and } \rho^3=1.$$

[Professor Sylvester remarks that this Question contains virtually the complete analytical solution of the problem of finding the points in which a given cubic is osculable by other cubics in 9 consecutive points.]

Solution by W. J. C. Sharp, M.A.

If x^3, y^3, z^3 be the roots of $t^3-pt^2+q't-r=0$, we have, from the given relations $$p^3=27\mu^3 r \text{ and } p^2=3q',$$

and the equation becomes $$t^3-pt^2+\frac{p^2}{3}t-\frac{p^3}{27\mu^3}=0,$$

or, if $$u=\frac{3t}{p},\ u^3-3u^2+3u-\frac{1}{\mu^3}=0,$$

$\therefore (u-1)^3=\mu^{-3}-1=q^3$ suppose, $\therefore u=1+q,\ 1+q\rho$, or $1+q\rho^2$, where ρ is an imaginary cube-root of unity, and x^3, y^3, z^3 are proportional to these quantities in some order, and, since the product of the three values of $u=q^3+1(=\mu^{-3})$, and only those values are to be chosen which make the cube root of this product μ^{-1}; the relations are as given in the Question.

If regard be paid to the order, each of these ratios will represent six different solutions, and therefore (1) is true.—*Educational Times.*

ORIGINAL PROBLEMS WITH SOLUTIONS.

By D. F. H. Wilkins, B.A., Bac. App. Sc., Mathematical Master, Mount Forest High School.

1. In Euclid II. 10 show that $AB.BD=EB.BG$.

2. Without using the Exponential Theorem prove the following: (See *Wolstenholme's Problems*, 1878, No. 296.)

If there be any n quantities whatever, a, b, c, d, ..., and if s_n represent their sum, s_{n-1} the sum of any $(n-1)$ of them, s_{n-2} the sum of any $(n-2)$ of them, etc.; and if

$$S^2_n=(s_n)^2-\Sigma(s_{n-1})^n+\Sigma(s_{n-2})r-\&c.$$

then $S_n=\lfloor n\ abcd\ldots.$;

$$S_{n+1}=\lfloor n+1\ abcd\ldots.(a+b+c+d+\ldots.)$$
$$S_{n+2}=\lfloor n+2\ abcd\ldots.[2\Sigma(a^2)+3\Sigma(ab)]$$

3. Prove $$\frac{xy}{4(x^2+y^2)}[(x+y)^2+2(x+y)^2(x^2+y^2)+(x^2-y^2)]$$
$$=(x^2+xy+y^2)^2-(x^2+xy+y^2)(x^2+y^2)+x^2y^2.$$

4. From the identity $\cos 2x\cos x=\cos 3x+\cos x$, deduce

$$2^{2n-1}+\frac{(2n-2)(2n-3)}{\lfloor 2}2^{2n-3}+\frac{(2n-2)(2n-3)(2n-4)(2n-5)}{\lfloor 4}\cdot 2^{2n-5}$$
$$+\ldots.=3^{2n-2}+1.$$

5. ABC is an isosceles triangle, BC being the base. Forces act along the direction of the bisections of the exterior angles at B and C respectively, represented by these lines in magnitude. Show that their resultant passes through A.

Solutions.

1. $AD^2=AB^2+BD^2+2AB.BD.$ (II. 4.)
$AD^2+DB^2=AB^2+2BD^2+2AB.BD.$
i.e. $AG^2=AB^2+2BD^2+2AB.BD.$ (I. 47.)
i.e. $AE^2+EG^2=AB^2+2BD^2+2AB.BD.$ (I. 47.)
i.e. $EB^2+EG^2=AB^2+2BD^2+2AB.BD.$
i.e. $EB^2+EG^2=4BC^2+2BD^2+2AB.BD.$
i.e. $2EB^2+BG^2+2EB.BG=4BC^2+2BD^2+2AB.BD.$ (II. 4.)
$\therefore\ EB.BG=AB.BD.$ (I. 47 and Ax-3.)

2 $S_n=(s_n)^n-\Sigma(s_{n-1})^n+\Sigma(s_{n-2})^n$ &c.

Now the number of terms in S_n is

$$\frac{n(n+1)(n+2)\ldots(2n-1)}{\lfloor n}-\frac{n}{\lfloor 1}\cdot\frac{(n-1)n(n-1)\ldots(2n-2)}{\lfloor n}$$
$$+\frac{n(n-1)}{\lfloor 2}\cdot\frac{(n-2)(n-1)n\ldots(2n-3)}{\lfloor n}-\&c.=$$

But $\frac{n(n+1)(n+2)\ldots(2n-1)}{\lfloor n}$ is the coeff. of x^n in $\left(\frac{1}{1-x}\right)^n$;

$\frac{(n-1)n(n+1)\ldots(2n-2)}{\lfloor n}$ " " " $\left(\frac{1}{1-x}\right)^{n-1}$;

$\frac{(n-2)(n-1)n(n+1)\ldots(2n-3)}{\lfloor n}$ " " $\left(\frac{1}{1-x}\right)^{n-2}$;

$$\therefore \text{ coeff. of } S_n\equiv\text{coeff. of } x^n \text{ in } \left[\left(\frac{1}{1-x}\right)^n-n.\left(\frac{1}{1-x}\right)^{n-1}+\frac{n(n-1)}{\lfloor 2}\left(\frac{1}{1-x}\right)^{n-2}-\&c.\right]$$
$$\equiv\text{coeff. of } x^n \text{ in}\left[\frac{1}{1-x}-1\right]^n$$
$$\equiv\ \text{"}\ \text{"}\ \frac{x^n}{(1-x)^n}$$
$$\equiv\ \text{"}\ \text{"}\ x^n\left[1+nx+\frac{n(n+1)}{\lfloor 2}x^2+\&c.\right]$$
$$\equiv 1.$$

i.e. when the series in each bracket is expanded, all the terms but one cancel. The uncancelled term is $\lfloor n\ abcd\ldots$

(*Vide Gross' Algebra, Example* 4, *p.* 73.)

Similarly the coeffs. of S_{n+1} and S_{n+2} are respectively the coeffs. of x^{n+1} and x^{n+2} in the identity $\left(\frac{1}{1-x}-1\right)^n\equiv\frac{x^n}{(1-x)^n}$; *i.e.* t're rem n and $\frac{n(n+1)}{\lfloor 2}$ uncancelled terms containing respectively x^{n+1} & x^{n+2}.

In the first case these terms may be shown to be of the form

$\Sigma(a^2bcd\ldots)$ and the coeff. $\equiv\frac{\lfloor n+1}{2}$.

$\therefore\ 2S_{n+1}\equiv\lfloor n+1\ abcd2\ldots(\Sigma(a))$.

In the second case these terms are of the form $\Sigma 2a^3bcd\ldots+\Sigma 3a^2b^2cd\ldots$ and the coefficient may be seen to be $\frac{\lfloor n+2}{3.4}$,

$\therefore\ 12S_{n+2}\equiv\lfloor n+2\ abcd2\ldots[2\Sigma(a^2)+3\Sigma(ab)]$.

3. $$\frac{xy}{4(x^2+y^2)}[(x+y)^4+2(x+y)^2(x^2+y^2)+(x^2-y^2)^2]$$
$$\equiv\frac{xy}{4(x^2+y^2)}[(x+y)^2+(x+y)^2)]\,[(x+y)^2+(x-y)^2]$$
$$\equiv\frac{2xy(x+y)^2}{4(x^2+y^2)}[2(x^2+y^2)]$$
$$\equiv xy(x+y)^2$$
$$\equiv x(x+y)y(x+y)$$
$$\equiv(x^2+xy)(xy+y^2)$$
$$\equiv[x^2+xy+y^2-y^2][x^2+xy+y^2-x^2]$$
$$\equiv[(x^2+xy+y^2)-y^2][(x^2+xy+y^2)-x^2]$$
$$\equiv(x^2+xy+y^2)^2-(x^2+y^2)(x^2+xy+y^2)+x^2y^2.$$

4. $$\cos x\equiv 1-\frac{x^2}{\lfloor 2}+\frac{x^4}{\lfloor 4}-\frac{x^6}{\lfloor 6}+\ldots+(-1)^{n-1}\frac{x^{2n}}{\lfloor 2n}+\&c.$$

$$\cos 2x\equiv 1-\frac{(2x)^2}{\lfloor 2}+\frac{(2x)^4}{\lfloor 4}-\frac{(2x)^6}{\lfloor 6}+\ldots+(-1)^{n-1}\frac{(2x)^{2n}}{\lfloor 2n}+\&c.$$

$\therefore$ Multiplying the above and picking out the coefficient of x^{2n-2}, we have

$$\frac{2^{2n-2}}{\lfloor 2n-2}+\frac{2^{2n-4}}{\lfloor 2n-4}+\frac{2^{2n-6}}{\lfloor 2n-6}+\&c.$$

i.e. $$\frac{1}{\lfloor 2n-2}\left[2^{2n-2}+\frac{(2n-2)(2n-3)}{\lfloor 2}\cdot 2^{2n-4}+\frac{(2n-2)(2n-3)(2n-4)(2n-5)}{\lfloor 4}\cdot 2^{2n-6}+\&c\right]$$

But $2\cos 2x \cos x = \cos 3x + \cos x$; and the coeff. of x^{2n-2} on the right-hand side is $\frac{3^{2n-2}}{\lfloor 2n-2} + \frac{1^{2n-2}}{\lfloor 2n-2}$.

$$\therefore \frac{2}{\lfloor 2n-2}\left[2^{2n-2} + \frac{(2n-2)(2n-3)}{\lfloor 2} \cdot 2^{2n-4} + \&c.\right] = \frac{3^{2n-2}}{\lfloor 2n-2} + \frac{1^{2n-2}}{\lfloor 2n-2}$$

$$\therefore 2^{2n-1} + \frac{(2n-2)(2n-3)}{\lfloor 2} \cdot 2^{2n-3} + \&c. = 3^{2n-2} + 1.$$

5. Let ABC be the triangle $BE.CF$ the lines of action of the forces. Produce EB and FC to meet in D. Then DB, DC represent also the magnitudes of the forces. It may be shown that $DB = DC$, and thence that the line of action of the resultant passes through A.

Correspondence.

To the Editor of the CANADA SCHOOL JOURNAL.

MR. EDITOR,—As I was going to Goderich to attend the association, in company with another teacher, he asked me if I had seen in the JOURNAL where a writer had accused me of plagiarism. I told him I had not, and on arriving at Goderich and enquiring into the matter, I found it was in the July-August number, and as I had been absent from home during the holidays and that paper did not come to my permanent home I had not seen it.

My first thoughts upon reading the article were to treat it with silent contempt, as anonymous epistles are very apt to lead to trouble; however, upon mature thought and advice from older teachers that silence might be construed into acknowledgment of guilt, I concluded to simply say the production is my own except what I culled from Mason's and other grammars I possess, and if any more is necessary, and "Enquirer" will write over his own name, I shall give a full account of the whole matter.

Thanking you, Mr. Editor, I remain,

W. M. LEIGH.

Farquhar, November 6, 1883.

M. J. S., MARKSVILLE, asks for an explanation of the aurora borealis or northern lights. The cause is not yet known. It is strongly suspected to owe its origin to electricity. Magnetic storms are frequently simultaneous with brilliant electrical displays. Pass electricity through a long glass tube exhausted by an air pump, and an appearance very much like the aurora is produced.

GEORGINA ELLIOTT, MAGANETAWAN, writes: "Encouraged by your beautiful JOURNAL to give some items in my experience, I will try to give you my light on teaching Long Division." She sends us six steps for which we may find room in our Practical Department, by and by.

JOHN B. POWLES, FENELON FALLS, writes: "I have just received the third number of the JOURNAL, and am much pleased with it. It is a valuable addition to a teacher's stock of 'school information.'" This is just what multitudes of teachers are constantly saying During the coming year we hope to make it more practically usefu than ever. Friends, send on your dollar and get the January number. We cannot supply many back numbers. Our edition of 6,000 fell short in October, and we had to re-set the whole JOURNAL in order to print 1,000 more copies required on short notice.

To the Editor of the CANADA SCHOOL JOURNAL.

DEAR SIR,—I am in sympathy with your belief, that teachers may practically benefit each other by such a system of correspondence as you recommend, particularly in the September number of the SCHOOL JOURNAL. Younger teachers especially are anxious to hear from those more experienced their methods of dealing with difficulties which arise every day; and who can estimate the value of even one such hint to some pains-taking teacher, who has exhausted his resources and adopts the method of another to find it a success? I shall proceed to prove my faith by my works, and offer to others my method of dealing with inattention.

I observe closely the following rules:—

I. Place those disposed to inattention in the front seats or the most conspicuous place in the class.

II. Make the lesson as attractive as possible.

III. Question promiscuously and occasionally call for simultaneous answers.

IV. If raising the hand be agreed upon as a sign of ability to answer, frequently question those whose hands are not raised, to ascertain whether the cause is inability or inattention.

V. If while explaining some particular point you observe a pupil not paying attention, stop and question. If he is unable to answer make a second explanation, and then show him that he wastes the time of both teacher and class by requiring a second explanation.

I have seen teachers loudly demand attention, bang the desks and stamp on the floor, at the expense of lungs, ruler, and shoe-leather, and yet nothing was effected but confusion. Be calm and decisive, control your temper and you will succeed. By enforcing the above rules I have always been able to secure good attention, except in very rare cases.

I should be very glad to obtain from some teacher answers to these questions, concerning whispering:

Is it best, as a rule, to allow pupils to work together?

Should there be a rule forbidding the pupils to speak to any one but the teacher?

If communication of any kind is allowed how can you prevent its going too far and creating disturbance?

Hoping to receive many useful hints from my fellow-teachers on different subjects,

I am, yours truly,

LENNOX TEACHER.

Napanee, October 16, 1883.

Special Articles.

THE KINDERGARTEN.

"For, eschewing books and tasks,
Nature answers all he asks."
WHITTIER: Barefoot boy.

I write this week from St. Louis, where I learn the Kindergartens are in successful and flourishing condition, being, as is well known, a part of the public school system.

Some time ago, on returning from Europe, Miss Blow found the kindergartens in a very backward state. Her pride in a system she had established here was touched. She determined to re-animate its drooping vitality. Among other means resorted to for this purpose, was an attempt to infuse her own spirit into some of the representative young ladies of the city. An impromptu and informal class, or organization, was formed. Miss Blow met them every week and delivered kindergarten lectures, etc. The result was renewed interest in, and prosperity for, the public kindergartens. Moreover, the seed thus dropped bore other fruit Some of the young ladies made application of the ideas they received in their Sunday school classes and elsewhere. The interest thus aroused did not die out: and recently a class of society young ladies volunteered themselves to Miss Blow as disciples of Frœbel. I had the pleasure of meeting this class Friday afternoon. They were learning a game called, "The Bridge." Miss Blow spent twenty minutes giving them an insight into its philosophy, and

Mrs. Hubbard (the compiler of the standard kindergarten game and song book) took them through the song and accompanying movements.

This class holds its meeting in the Eads kindergarten room. The walls, ceilings, columns, and all available space, are filled with kindergarten occupation work, mottoes, object pictures, etc. An artificial tree, with birds' nests and stuffed birds perched in its branches, helps to illustrate many of these natural history movement games. Where the objects themselves, or their artificial representation, cannot be had, pictures are resorted to for the purposes of illustration.

For their next lesson, these young ladies were given a song called "The Five Knights." A mother sees five knights come riding by. She has a child who, "like a dove, is fair and good," and is "like a lamb, of merry mood." In seeing the knights "come riding by," the hand is held over the eyes to shade them from the light, as one is apt to do in gazing a long distance into open space. As the dove and lamb are respectively referred to, the right hand is gracefully extended toward the pictured, or other, representation of the object. Thus the physical and characteristic traits of the animal are impressed on the mind, and a comparison to the child in the song is made.

The mother says:

"What would ye then fair Knights with me?"

"We wish thy precious child to see. We hear he is so fair and good, etc., etc."

As the knights reply, of course they assume an erect and military bearing, and make a graceful obeisance to the mother of whom the favor is asked.

Miss Blow remarked that she would leave the young ladies to study out, for themselves, the underlying idea of the song before he next meeting. She could not, however, refrain from opening his philosophical door for them—just a little way: "You have often heard persons say, 'Come here you sweet little child!'—'O isn't she a darling?' 'What lovely curls, what pretty, rosy cheeks! and O what a *beautiful* dress she has on!'—'Where did you get that pretty dress, dear?' How many of you have ever heard anything like that?"

Of course the testimony to similar experience was universal. "Well, in this song, did the mother praise the child because he had rosy cheeks and blue eyes? Did the knights want to see him because they had heard he had lovely curls and wore pretty clothes? The whole question of praise is involved in the idea of this song. Shall a child be praised at all? If so, how much, and for what?"

The young ladies then went on the circle, and sang and played many of the movement games. The gestures were animated, and exceedingly graceful, but, above all, pains were taken that there should be correct imitation, for "imperfect representation produces incorrect impression." "Better," said Miss Blow, "for a child to get no idea at all than a false one."

In the game "Hasten Peter to the Meadow," there is an imitation of the motion with a scythe in cutting the grain. As the miller grinds the grain the young ladies become revolving wheels, and, in turn, joining hands all round, the larger wheel revolves. A great deal of amusement followed their attempts at "milking the cow," the motions of the hands being more after an ideal method than any practical one, and if put to the test would very likely meet with opposition from the cow. However, like Biddy, they were "willin' to larn," and soon showed marked improvement. The sentiment of gratitude was strongly developed at the conclusion of the song, where everybody was thanked: Peter, for mowing the grain, the miller, for grinding it, the cow, for giving the milk, the baker for the rolls, and 'mams' for the supper.

The Abbé de St. Pierre once said: "Men are only large children," and I confess an echo, responsive to that sentiment, in witnessing these games, no matter how often, and questioning mentally if the children themselves can enjoy them more.

One can readily see that a true conception and exposition of the kindergarten system leads one to the further study of natural history, botany, astronomy, and indeed all the sciences, and more especially to the study of philosophy in all its branches. One of its values to those who take the training is its stimulus in the direction of mental culture, and but for the practical side of it one might be tempted to go to extremes, and venture into a train of speculative philosophy ending in chaos.

Miss Blow is delivering a series of advanced lectures in philosophy to a Saturday class, composed of kindergarten teachers and others. The one I heard, on the "Process of Activities," was largely attended by ladies only, and bordered on the domains of a summer school of philosophy. Though one can trace a connection between Frœbel's idea that "the happiness of a child depends on the harmonious employment of his activities"—and the statement that, "A self-determined activity, acting upon an activity, realizes itself, but an activity acting upon a passivity destroys itself—and that a self-determining activity which does not act at all is only an unrealized potentiality"—still I will spare my readers and not ask them to mount a winged Pegasus and fly to Concord, but keep them within the humble limits of the more simple philosophy of Frœbel and his beloved kindergarten.—*The Moderator.*

TEACHERS NOT SUFFICIENTLY APPRECIATED.

Having painted this picture in such bright colors, it remains to confess that neither the State nor the Church nor the public appreciates the school-house nor the teacher, man or woman, at the desk. In power the teacher transcends the preacher, and the editor, and the lawyer and physician combined, for he influences more minds, and in their most sensitive age; and yet there are noble women now petitioning the Legislature to add lessons in temperance and all morals to the daily pages of instruction, and to demand that the teachers themselves be not blind leaders of the blind, but be minds full of all forms of moral light. What rare leaders had those young persons who gathered around Pestalozzi, or Thomas Arnold, or James A. Garfield—men whose pure and ardent souls beat upon the young hearts like a spring wind from the south! Such is the relation of the schoolmaster to society that each Legislature and each Congress should hasten to ask how such dealers in destiny can become clothed with still greater intellectual and moral power. Forbidden to support a church or to teach any special sectarian religion, the State possesses a grand field in temperance and all ethics, and will never do its duty until it makes prominent these elements of education. Here is a large defect in the public instruction: it should accept only teachers who can teach and practise the higher laws of life. These teachers having been ordered, the money sunk in political gambling and fraudulent railway grants should be poured into the salaries and rooms of the teachers, for every good schoolmaster is an element of national success—every political schemer an element of national ruin. The noblest men and the noblest women should be called to this task.—*Prof. David Swing.*

You cannot do without the ***Journal.***

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ADVICE TO YOUTH.

AN ELOQUENT ADDRESS BY M. RÉNAN ON THE VALUE OF LIFE.

Subjoined are some of the more striking passages from an address made by M. Rénan to the pupils of the Lycée Louis-le-Grand in Paris:

Consider the life before you as a matter serious and full of responsibilities. But is that a reason to regard you as less favored by fate than your predecessors? Quite the contrary, young people! Never say, as did those malcontents of whom the prophet speaks, "Our fathers have eaten sour grapes, and their children's teeth are set on edge." Your lot is fair, and I see a thousand reasons to envy it; not merely because you are young, and because youth is the entry upon an excellent thing, namely, existence, but you will see what we shall never see; you will know what we seek for restlessly; you will possess the solution of many political problems about which we hesitate, because the facts have not yet pronounced themselves with sufficient clearness.

Your years forbid you to be cautious. Nobody is fearful about life when he is beginning it. A kind of blindness, skilfully arranged by Nature, presents existence to you as a tempting booty which you burn to seize upon. Wiser men than you will warn you against the illusion which underlies your youthful ardor. They will tell you of disappointments; they will say that existence does not keep its promises, and that if people only knew what it was they took in hand, they would not have the *naif empressement* of your age. But I declare to you that is not my sentiment. I have traversed this life, which opens before you like an unknown and limitless land. I expect to encounter nothing much more in it of the novel; its termination, which seems to you indefinitely far off, is very near for me. Well, with my hand on my heart, I say that I have found this life, which it is the fashion to calumniate, good, and well worthy the appetite which youth shows for it. The one real illusion of which you are guilty about it is, to believe it long. No, it is short, very short; but even thus I assure you it is well to have existed, and the first duty of man toward that Infinitude from which he emerges is to be grateful. The generous rashness which makes you enter, without a shadow of *arrière-pensée*, upon a career, at the close of which so many enlightened folks aver they have found nothing save disgust, is really very philosophic after its kind. Forward, therefore, with good hearts! suppress nothing of your ardor; that flame which burns within you is the same spirit which, providentially spread throughout the bosom of humanity, is the principle of its motive force. Forward, forward! say I; lose not your love and passion for living. Speak no evil of the boundless bountifulness from which your being emerges, and in the special order of individual fortunes bless the happy lot which has bestowed on you a generous country, devoted teachers, kind relations, and conditions of development in which you have no longer to strive against the old barbarisms.

That joyous intoxication, then, which springs from the new wine of life, and which renders you deaf to the weak complaints of the feeble-hearted, is legitimate. Do not be ashamed to abandon yourselves to its influences! You will find existence full of sweet savor, if you do not expect from it what it cannot give. When people complain of life, it is almost always because they have asked impossible things from it. Upon this believe wholly the teaching of the wisest,—there is but one foundation for a happy life; the pursuit, namely, of the good and of the true. You will be well pleased with existence if you make fair use of it, and if you abide well pleased with yourselves. A noble sentence is that which says: "Seek ye first the kingdom of heaven, and all the rest shall be added unto you."

On a similar occasion of this of to-day, but forty-three years ago, the illustrious M. Jouffrey addressed the following stern words to the pupils of the Lycée Charlemagne: "Our duty, to whom experience has unveiled the ultimate truths about the things of this world, is to announce it to you. The mountain's top of life hides from you its farthest slope; of its two sides you see but one, that which you are ascending; it is bright, beautiful, fragrant as spring time. You are not able, as we are, to contemplate the other fall, with its melancholy aspect, its pale sunlight, and the icy river flowing at the bottom." Well, my lads, I say no to all that. It is too mournful! The sunlight is never pale, though it is often veiled. Because a man grows old, has he the right to say that flowers have grown less lovely, and the springtide less radiant? Are we, forsooth, to grumble because we cannot live forever on earth? What rubbish is this, just heaven! Amidst all the flowers (and how sweet and fair that flower-world is!) only one seems to me without any charm. It is the sickly, dry, stiff, withered, disagreeably glittering thing which gardeners wrongly call "the immortelle." I do not call it a flower. I prefer the bright and sweet rose, though it has the defect of fading away all too soon.

You will behold the twentieth century, my young scholars. Ah! I confess I envy you that other privilege,—you will see the unforeseen! You will hear what posterity says of us; you will know what there was of solid ond what of frail in our dreams. Be kind to us who preceded you. This poor old nineteenth century, which will be so well abused, had good people in it, faithful souls, warm hearts, and heroes of duty. Generations, as they follow each other, are ofttimes unjust to each other. You are the nursery-garden of the talent of the future. I fancy I descry amid you the very critic who, about the year 1910 or 1920 A.D., will sit in judgment on this age. I imagine I read his indictment (permit me to indulge my idea): "What a sign of the times! what a complete reversal of all proper notions of things, to choose in 1883 for our president at the distribution of prizes a man, harmless enough, but the very last who should have been selected, etc. He gave some good advice; but what feebleness, what lack of indignation against his times!" Thus, doubtless, will write the conscientious critic of the twentieth century, and perhaps he will not be far wrong; but do not let him forget to add how glad I was to be amongst you, how your marks of sympathy went to my heart, and how the touch of your youth revived and rejoiced me.

WHAT IS THE MISSION OF THE COMMON SCHOOL?

BY A. B. HINSDALE, SUPT. OF SCHOOLS, CLEVELAND, O.

The sweep of my argument is, that the State *may* take a very wide range in the educational field; that much will depend upon circumstances; no metes and bounds can be defined, save as groups of facts. But it is far more important that the State shall provide primary schools and grammar schools than colleges or even high schools. The following statistics are an impressive argument:

In 1881 there were enrolled in the primary and grammar schools of Ohio 714,819 pupils. The same year there were enrolled in high schools 29,939 pupils. The same year there were enrolled in 30 Ohio colleges 3,256 pupils. The same year there were enrolled in 33 preparatory schools and academies 3,814 pupils. The same year there were enrolled in 6 normal schools 2,953 pupils.

Now, it is not necessary for one to believe in mere numbers, or to disparage the higher education, to see that the heart of American education beats below the high-school line. Hence, I do not hesitate to declare that to strengthen and deepen the education of the pupils in the lower grades,—the real common schools,—stands first among the educational needs of the time.

But the main question still towers above us like a citadel: "What is the Mission of the Public School?" Before assaulting it, let us run another parallel. Is there an education that all men in a free State need; an education that furnishes a general preparation for life; an education that belongs to no particular walk in life, but that is a pre-requisite for all walks; an education that does not develop particular dexterities so much as it develops the man who is back of dexterities, and is more than dexterities; an education that extra-State agencies cannot furnish, in the first place, and that State agency can better furnish, in almost all cases, in the second place? If there is such an education, manifestly it lies within the province of the public school. Let us see if we can find an education that fills up this measure.

PRIMARY AND GRAMMAR SCHOOLS.

Argument is scarcely needed to show that we have such an education in those studies that are now pursued in our primary and grammar schools. The studies form the common platform of all education, considered in the technical or school sense. No matter what dexterities a man cultivates later; no matter what special lines of study he may follow; no matter what broader and fuller course of study he may master; no matter what profession he may choose or what arts cultivate, these studies he must have. They are essential to the growth of the man and to his success in life. I shall here throw them into three groups:

First: Reading, spelling, penmanship, language, and grammar. These studies have to do, first, with acquisition, and secondly, with expression. The pupil must acquire knowledge; he must be able to communicate his knowledge. In the earliest stages of human history direct observation of men and things is the only way to learn. In the next stage, men not only observe directly, but they learn from the oral teaching or tradition of those older or better informed than themselves. Then come writing and books, which are in some sense the most valuable source of information and training. In a literary age literature becomes the great instrument of the school. Thus, to learn to read is the first and greatest of school acquisitions. It is the key to the vast store-house of recorded knowledge. Hence, to say of a man, in our society, that he cannot read, is to say of him that he is untaught and ignorant. Next, writing is the art preservative of arts; next to oral speech, it is *the* instrument of communication; older than books in its origin, it is later, or, at most, contemporaneous in its acquisition. Then, in connection with reading and writing, should be mentioned such training in spelling, language, and grammar as will enable the pupil to express with force and correctness his thoughts and feelings. These things may be thrown under the general head of composition,—a branch of education hitherto neglected in schools, and that calls for a larger cultivation.

Secondly: Those rudiments of mathematics which constitute arithmetic. These rudiments must be taught partly because they are a business necessity, and partly because they are an unvaluable practice in logic. Time will not be taken here to determine just how much arithmetic, but it is pertinent to remark that, as a rule, the strongest thinkers among men who have had only common-school education will be found among the good arithmeticians.

Thirdly: A modicum of geography and history,—modicum, I mean, as compared with what may be known. The school geography cannot be a cyclopedia, nor can the school history be an extended treatise.

Such is my grouping of the common studies. It will be observed that drawing, music, civil polity, and German are not included. This is not because I undervalue these studies. As I am not drawing up a course of study, but making an outline, I am not here called upon to discuss disputed questions. It suffices to say that some room should be found for drawing, music, and civil polity in common schools, though they should not be pushed to the front. Whether German shall be taught or not, will depend upon the presence or absence, in any community, of a considerable German-speaking and reading population. For American history and polity I must say, however, that they should by all means have a place in American schools, especially so long as the great defence of our State schools is the argument that the State must educate in her own defence.

Send us the Educational News of your district.

SCHOOL RECEPTIONS.

BY J. A. WILLARD.

The fact is established by Divine authority that it is not well for man or woman to labor alone, devoid of human help and human sympathy. We are so constituted by nature that it gives us pleasure to see our friends. Our doors are always open to welcome them, and we make special effort to entertain them, to contribute to their happiness, well-being, and amusement.

We are, or should be, a genial people. And it is especially a teacher's duty to cultivate that trait of character. True geniality never detracts from true dignity; indeed they are almost inseparable traits. Wide is a teacher's influence, almost beyond the limits of human comprehension; for who shall fix its bounds? In her daily life her every act makes its impress upon the minds of her pupils, and they in turn, acting upon their associates, extend her influence far and wide. Every day of a teacher's life is as a pebble, or weightier stone, cast into a pool whose circling eddies widen and widen until they meet the shores of time; and who shall say they do not reach over into eternity? It is a teacher's duty to see that her influence is of the best; then to strengthen and extend that influence by every available means. What is her best course for so doing?

An excellent method is to reach the pupils in their homes. But how shall she do this? The teacher of a graded room has from forty to fifty pupils, coming from as many different households. She has manifold school duties, which overlap the limit of school-hours. If, in one of the higher grades, she has daily written work to be examined, weekly or monthly diaries or reports to be filled out for every pupil, monthly or bi-monthly examinations to be marked carefully and justly at their merited per cent., lessons to be planned, fresh questions and new ideas to be flung in which will awaken her pupils to a keener mental activity and greater zeal to search beyond the text-book in hand,—illimitable work which any earnest teacher cannot fail of finding,—it is impossible for her to secure time to visit each one of these forty or fifty different homes.

Fellow-teachers, if you cannot go to the homes, bring the homes to you. But perhaps you say the homes will not come to you. No, not singly and alone. Now and then a mother or a sister will come into your school-room for an hour, venturing the remark that "she fears you don't like company and she is troubling you," and will sit in a constrained way, as if she had no right there,—perhaps partly because you are a little constrained and illy at ease. But the majority of the homes do not visit the school-room at all. They elect the members of the school board, at least the male portions of the home do this, and they send their children to school. There their interest seems to end, unless their son happens to be punished, or not promoted as rapidly as they think he ought to be. Then they severely criticise the teacher, the principal, and perhaps the superintendent, the school board, and the whole school system, without stopping to inquire into the cause of the son's probably-more-than-deserved punishment or non-promotion.

This is not as it should be. There should be a cordial and constant coöperation between parent and teacher. They should know each other personally, and thereby be an actual, living, continual help to each other. The pupils of a public school come from all sorts of homes. Some from homes where the influences are pure, elevating, and refining; and some from habitations which can hardly be called homes. And it is often these very habitations that the teacher has most need of reaching. They need her regenerating influence, while she needs their coöperation in controlling insubordinate and refractory spirits. A word of command from a rough, illiterate father to perhaps an equally rough son may save a teacher many a day of trial. Now, these fathers and mothers will not come singly to visit the school. Not even the medium class will do so. And from the best homes they come, if they come at all, "like angels visits,—few and far between."

No, the majority of homes will not come to you singly and alone. Then set apart a special day, and invite them to come to you in company. Make special preparation for the day. Interest your pupils in it, and you may be assured they will rouse the interest of

their parents and friends. Bring forth your very best to entertain your invited guests. Every parent's son and daughter is best to the parent's heart; therefore have general class exercises, in which *every* pupil in the room shall take a part. Train the pupils and *help* them to always and ever do their very best; and teach them that the very endeavour, the earnest effort, is in itself ennobling and elevating.

Show to the homes the every-day work of the school-room; the solid foundation which no time nor tide can sweep away,—the wealth of an education which is as free to the poor,—yes, even more so,—than to the rich, if they will but by diligence accept it. Besides the every-day work, have some special work with which to entertain. The good housekeeper prepares a few dainties when she invites company, and why should not the good teacher do the same? Bring forth the best of everything which your school-room affords, prepared in the best manner which your pupils can prepare it.

Do I hear some faint-hearted teacher say, "If I should attempt anything out of the usual routine, some of my scholars would be sure to make blunders"? What if they do? Is there a human being in existence who has not made blunders, and who will not again make them? Blunders are often exceedingly amusing. Ignorance is sometimes mirth-provoking; and the humorous things which are unwittingly said and done are quite equal in number and in humor to those which are said or done with a forethought. He who tries to be funny and really succeeds, is never half so funny as one who says or does a funny thing and does not know it. And the teacher should take a philosophic view of any such opportunity, and quick-wittedly turn it to the best account, thereby placing the pupil at once at ease, and the audience in a most happy and appreciative frame of mind. For audience there will surely be if the homes are invited to come in company, and they hear of the preparation being made for their entertainment. At first one parent or another may think his or her going is quite out of the question. But the interest is roused a little; and it increases as they hear the children talk of it from day to day. And as the time draws near, they quite decide to go; "to please the children, if nothing more." And once there, they enjoy it exceedingly. The school-room looks pleasant with its bright and animated faces.

The recitations pass off briskly; problems are solved in rapid succession that would cost the parents hours of mental application to arrive at even an indefinite answer. Maps are drawn upon the walls, such as they never dreamed of,—maps that grow as if by magic, under the deft fingers of their own children, showing the form of every country, and locating every important city, river, lake, and mountain, on the face of the globe; yes, locating even the railroads.

The parents begin to appreciate the work being done in the schools as they have never before appreciated it. They begin to *see* the earnest, faithful, laborious efforts of the teachers as they have never before seen them. And people take a far greater interest in what they see than in what they hear about. They believe what they see, while they do not believe half that they hear about, and ought not to do.

These receptions, this sight-seeing, brings the teacher's work home to the people with a force and conviction of comprehension that nought else can so quickly and so thoroughly accomplish. It is faith by sight, and that is a convincing faith. And ever after these parents and friends have a warmer glow in their hearts for the teacher, a more earnest, helpful, and appreciative interest in her purposes, her aims, and her plans. In one afternoon's time the teacher has taken a strong hold upon the community. She has entered the wedge of her influence in a pleasant and agreeable manner,—in an acceptable manner. And ever after it will be felt and shown, in little things, if not in great. It will redound to her own pleasure and comfort in the management of her room. She will find her pupils more tractable, more easily governed, if the parents are in earnest accord with her. The pupils will take a greater interest in their lessons, be more conscientious in the learning of them, and be more truthful, honest, and honorable in every act.

The children of to-day are the men and women of to-morrow; and the influence exerted over them to-day is going out into all the active relations of their future life. The moral, financial, and political good of the future of our country depends upon the children now under our care.

The teacher has in her charge the highest of human interests. Let us so recognize her work, and let her see to it that her influence is of the very best, and then strengthen that influence by every means within her power.—*N. E. Journal of Education.*

Practical Department.

THE UTILITY OF CLASSICS.

It surpasses belief that the necessity for the classical element in a modern education is not sufficiently met by the study of one dead language. Not only can Greek be spared,—it ought not to be afforded. All desirable linguistic practice, except that for which we must resort to living languages, can be had with Latin. The rest of the pupil's time is too precious to be given to more paradigms, more syntax, more construing of passages. These are easy to teach, but unprofitable to learn.

Those who have assailed the classics, have usually been unwise devotees of science as a separate interest. These advocates of science in the schools have made a great mistake. The Greek declensions and conjugations did no harm in themselves. They simply did no good, and stood in the way of better things. But premature teaching of science is positively injurious. It is too difficult for the youthful mind, and cannot but react harmfully upon the pupil's moral and intellectual attitude toward science itself.

But an excess of dead languages should be objected to by educators on educational grounds; that is, on the grounds that it is not the best for the boy, considering his destiny in this country and in this age; and that a well-grounded training needs all the time hitherto given to Greek for other, very different exercises.

Unskilled teaching makes fewer mistakes with Latin and Greek paradigms and rules than with any other material. Hence the good results conventionally attributed to these studies. Committing to memory and infinite repetition are the order of the day in Latin and Greek. Almost anybody can manage this; nor is a fair amount of it bad for the pupil. Recent graduates from college, who can do nothing else in the world, can teach Latin and Greek well. Primary teaching has intimate relations with questions of psychology and method, and exacts great skill and devotion in the teacher. Not so Latin and Greek.

Because Latin and Greek are thus easily taught,—so far as the schools conceive the learning of them to extend,—they are hard to displace or diminish. They are convenient. With them it is feasible to keep a pupil at work, to mark him, to correct his exercises, to qualify him for prescribed examinations. Pedagogy has assimilated them. It knows what to do with them.

Greek seems like a "fetich" when we consider how pertinaciously the teachers of it close their ears to all suggestion of removing it from the list of required studies. But it is really pedagogic inertia that, in spite of the growing demand for parallel courses without Greek, keeps it compulsory in modern schools. Wherever Latin and Greek are taught, other studies naturally fall into a subordinate rank. The easy supremacy which they maintain throws suspicion upon their right to such preeminence. It should be questioned whether they hold their superiority by virtue of their own inherent quality, or because substitutes for them have not yet been wisely chosen and adjusted to school methods.

In the lack of teachers thoroughly trained in modern languages, ancient and modern literatures, history, upper mathematics, and the mother-tongue; in the absence of a high standard in the ancient languages themselves; and in the fact that the study of method is almost unknown among the teachers in preparatory schools, may, perhaps, be found the reasons for some portion of the pedagogic clinging to both Latin and Greek. Perpetual paradigms and parsing, passages of the old poems and orations, a dreary round of so-called prose composition,—these exact but little attention to method. Copious historical and literary knowledge, and a thorough

ompr ehension of the best methods of teaching history and literature, are rare accomplishments. And the same may be said of the modern languages, of gymnastics, of drawing, of English composition, and other important secondary studies. If these seem inferior to Greek in pedagogic value, the fault is in ourselves that we have not mastered them or have not learned how to teach them rightly.

Girls' schools in Europe have in their programmes not only no Greek, but even no Latin ; but they have their hours for ancient literature. The excellent transalations from the classics should not have been made in vain. It is all-important for high-school pupils to read Homer and Virgil, something of Plato, and a little of a few other ancient writers. Where paradigms and parsing do not hinder this can easily be managed.

The argument that Greek has a great utilitarian value because it furnishes the etymologies of our scientific nomenclature seems altogether unsound. A frequent result of the study of ancient languages is an exaggerated estimate of the practical utility of knowing the origins of words. The fact is, it is a pleasing thing for the scholar to recognize relationships between old words and new words ; but his knowledge of the meaning of words is thereby promoted but very little, if at all. This becomes clear if we compare our acquaintance with words derived from the Greek, which we know, with our knowledge of words derived from languages which we do not know Do we, for example, understand better the meanings of *aorta, chaos, elastic, skeleton*,—all from the Greek,—than we do the meanings of *alcohol, naphtha, amber, sherbet*, from the Arabic ; of *crimson*, from the Sanskrit ; or of *peach*, from the Persian ? Or, do we feel any obscurity about the meanings of *coke, dismal, hickory*, because their etymologies are unknown ? Usually an etymology is misleading. One does not profit by, but has rather to be on his guard against, the etymological meanings of *oxygen, nitrogen, geometry, fungus*, and so on. The meanings which words ought to have, etymologically, they cannot have in modern times. To insist on deriving meanings, as well as forms, from the ancient sources, is the mark of a pedant. —*Didaskalos, in New England Journal of Education.*

OLD-TIME *VS.* MODERN SCHOOLS.

It may be asked, "Were the old-time schools superior in nothing ?" We would answer, "Yes, in matters of *drill.*" To be sure it was often a mere hammering over dried bones, yet some things were hammered in. The modern teacher, in her horror at senseless routine work, has gone to the other extreme. It is certain that no matter how carefully a subject may have been taught, no matter how carefully a child's understanding has been tested, there still remains a certain amount of drill, of plain, unvarnished *memorizing*, the lack of which is the *chief* lack of to-day's schools. But this failure is being recognized, and the most capable and enthusiastic of our teachers are asking themselves, "How shall I better teach and impress,"—not the "useless and ornamental studies" designated by Dr. Moran, of the Boston School Board, but the plain, common, homely studies of reading, spelling, arithmetic, grammar, and geography. And with new light has come a less slavish devotion to text-books, but more personal examination of things themselves rather than some man's description of them. The last few years has seen a marked improvement in the matter of reading and writing, a child of six being able to do what one of nine or ten could hardly accomplish in the past. If there can be an equal improvement in number during the next few years, our enemies even must be forced to commend. —*Mrs. Eva D. Kellogg.*

Compare the mass of matter in the ***Journal*** with that of any other paper at double the price.

THINGS I SHOULD ASK MYSELF AS A TEACHER.

BY GEO. H. COOK, IOWA.

1. Have I done all I could to-day for the good of my school ?
2. Would I do my work again the same as I did, if I could ?
3. Have I used proper language in the presence of my pupils ?
4. Did my clothes look as neat as they should as an example for my pupils ?
5. Did I prepare my lessons as thoroughly as they should have been ?
6. Could I have added any new thoughts to the minds of my pupils on any lesson ?
7. Did my pupils speak respectfully of me ; if not, what reproof did I make ?
8. Have I read any school work or journal to aid me in my teaching ?
9. Have I allowed my pupils to be boisterous in the school-room at recess ?
10. Have I asked the patrons to visit my school, thus encouraging the work ?
11. Did I call and dismiss all my recitations at the proper time ?
12. Have I allowed some point in school discipline to pass unobserved ?
13. Has my day's work been fully satisfactory ; if not, why not ?
14. Did I call and dismiss my school promptly on time ?
15. Have I examined school property to see whether it has been defaced ?
16. Have I paid attention to the ventilation of my room ?
17. Are there as few classes on my programme as can be ?
18. Have I given each class something to do and seen they did it ?
19. Have I made every effort to make my school a success ?
20. Have I endeavored to get out of any old ruts to-day ?
21. Have I arranged my programme in proper order and neatness ?
22. Did I fail to make recitations interesting ; if so, why ?
23. Was my school so orderly that I was not interrupted during recitations ?
24. How many questions did I ask to-day that could be answered by yes or no ?
25. Were my general exercises instructive and interesting ?
26. Did I proceed with a recitation while there was disorder in it ?
27. Did I have my school-room in condition for opening school ?
28. Did my pupils give due attention to the recitation ?
29. Have I allowed any pupil in the class to interrupt another ?
30. Were my pupils prompt in all their recitations ?
31. Have I kept a correct account of tardiness and absence ?
32. Have I exchanged ideas with any teacher ?
33. Which topic has been most difficult for me to explain to-day ?
34. Have I assisted any pupil who could have helped himself ?
35. If the school has gone wrong to-day, who is to blame—the pupil or myself ?—*N. Y. School Journal.*

TO TEACHERS.

Probably no profession requires more skilled workers than that of teaching. To be fitted for the responsible duties the teacher should possess :

1. *Purity*, that he may come before his pupils as a living example to them in thought, word, and deed : that his life may influence them to all that is good and noble.

2. *Politeness*, true and genuine, that he may have regard for the views and opinions of the little community over which he rules.

3. *Personal neatness*, that he may appear before them in a creditable and becoming manner.

4. *Peculiar fitness* for the work ; pleasant, to attract instead of repel ; patient, with faults and failing ; pity, in trivial trials and troubles ; a philanthropist, to exercise justice without favoritism.

5. *Preparation*, by hard work, time and thought, to be thoroughly qualified in all necessary studies; able to come before the classes master of the subject under discussion, instead of confined to text-books; knowing the how and why of methods and systems.

6. *Power to interest*, to make a topic a reality; to quicken the perceptions; and awaken zeal and enthusiasm for further investigation and research.

7. *Power to govern*, not merely to quell revolts and administer law, but to direct and guide the many wills in the proper channel, and having done so, to hold them there.

8. *Punctuality*, to be in the right place at the right time. If he must vary, better be too early than as many minutes late; having made a promise himself, keeping it, that he may expect and require the same of others.

9. *Programme*, that the time may be properly divided; that all may know when a duty is required of them, whether it be to study, recite, or rest.

10. *Promptness*, to turn readily from an interesting exercise and cheerfully proceed with another; alert as well to praise as to censure.

11. *Practicality*, as only a few years at most is given to school training; therefore pupils should be taught what is needed to make them thoughtful, earnest men and women to contend successfully with the realities of life.

12. *Personality*, having a firm belief of what is right, an object to be attained, and following his own course carefully and to a successful issue, instead of wavering and altogether losing himself in another's way and method. Finally, fellow-worker, have

13. *Pluck*, don't become discouraged, because unappreciated, but perseveringly, persistently, pertinaciously press on, and success will ultimately crown your effort.—*Julia A. Pickard, in the Fountain.*

READING.

"The great and almost universal fault in teaching reading is the too great neglect of attention to the sense of what is read."—*Supt. Philbrick.*

"In order to prevent monotony, occasionally carry into school a good story-book or paper, such as *The Nursery, Harper's Young People, Æsop's Fables, St. Nicholas, Robinson Crusoe*, etc., and from that let each pupil, in turn, read a paragraph or page while others listen. Such an exercise, rightly managed, will kindle an interest in the deadest class ever fossilized under the steady dropping of the old-style reading-lesson."—*John Swett.*

"If teachers will cease to require little children to 'read over' and to 'read over' and to 'study' beforehand their reading exercise,—a task entirely unsuitable at their age,—and will also put an end to the absurd practice of allowing pupils to keep up, during the reading exercise, a running criticism upon each other by irritating and aggravating remarks, thus mortifying their more timid companions, and sometimes paying off old grudges; and will then confine their labors mainly to two points,—to making the child realize the thought of the sentence to be read, and to showing him, by example and good vocal drill, how to give a pleasant and natural expression to that thought,—the best part of the victory will be won." —*Supt. A. P. Stone.*

"I do not hesitate to declare my conviction that if half the school-time were devoted to reading, *solely for the sake of reading*; if books were put into the scholars' hands all that while, under wise direction, divested of every shadow of association with text-book work, to be perused with interest and delight inspired by their attractive contents,—choice volumes of history, biography, travels, poetry, fiction,—there would be a far more profitable disposal of it than marks its lapse in many a school-room now. The ordinary reading of the schools is a pointless, starveling performance, so far as language-teaching is concerned."—*Supt. Harrington.*

"Good reading is an art so difficult that not one in a hundred educated persons is found to possess it to the satisfaction of others, although ninety-nine in a hundred would be offended were they told that they did not know how to read. The essential requisites are perfect mastery of pronunciation, and the power of seizing instantaneously the sense and spirit of an author."—*Marcel.*

"Question pupils upon what they read. By conversation with them upon the subject of the lesson, endeavor to make it interesting and instructive. When they thoroughly understand what they read, and have a real appreciation of the subject, they will read naturally and with correct emphasis and inflection. The teacher may read a piece to let his pupils perceive how, by a natural tone and correct emphasis and inflection, he brings out the meaning; but he must carefully avoid training his pupils to imitate him. They must read well of themselves, because they understand and appreciate the subject; they must never read as parrots."—*John Swett.*

"Familiarity with the best thoughts and expressions would lead children, with comparatively little effort, to think and express themselves in good language."—*Supt. Elliot.*

"That method is best which makes the pupil *think* most."—*W. R. Comings.*

"Grammar can be taught incidentally by calling attention to any peculiar grammatical constructions. Direct their notice to the fact that some descriptions and narrations are finer than others, because in them the adjectives and adverbs are used more abundantly and to a better advantage."—*McGuffey.*

"Every teacher of reading should collect numerous prose sentences and stanzas of poetry requiring a variety of tones in the reading and adapted to the capacities of the pupils, and use them for purposes of drill."—*Wickersham.*

"Encourage and practice favorable criticism rather than adverse. We gain more by securing the imitation of the good than by merely indicating what is faulty."—*Howard.*

EXTREMES IN SCHOOL MANAGEMENT.

The following essay by Supt. C. C. Cory, of Pella, Iowa, on the evil effects of introducing extremes of method into our plans of school management, is worthy of attentive consideration. Even if those who read cannot accord with him to the fullest extent, even if they think his case against over-methodizing is urged with a little too much zeal, they may well carefully consider his view of the case. The sin of pushing a good thing to the extreme which makes it a bad thing is a very common one in our day. Such criticism as will enlighten us to our faults in this regard, cannot fail to do us good:

"Methods are the machinery used for carrying out plans. We divide our schools into sections and classes, the better to accomplish a purpose. We have our course of study, our programmes of work, our rules of government for a like reason. No one need object to this. But when the great purpose for which these methods were adopted is lost sight of; when the soul of the teacher is wrapped up in the '*how* to do' rather than in '*what* to do' or '*why* do,: when the minor details receive more attention than grave results; when the parchment is wholly hidden by the 'red tape' around it, then may all with reason put in objections.

"We judge by results, not by the means used to attain those results. Forty years ago a score of orders was deemed necessary for the militia-man to properly load his musket, and half that number to discharge it. But the simple, 'Ready, aim, fire,' of to-day does the work as effectively; neither is the bullet sent with less certainty to its aim. The former was well adapted to dress parade, more æsthetical, perhaps, but hardly as well adapted to active warfare.

"So with teaching. The patrons of our schools may sometimes have occasion to whisper 'dress parade' when they witness the manipulations of some of our schools. While the eye is ever ready to take in and observe the beautiful, the solid sense will hardly be satisfied with anything short of solid worth; gilt soon wears off; gold is enduring and satisfying; no teacher need expect continued favor, much less success, who mistakes the means for the end, and

labors for the one to the neglect of the other. In some of our schools a rule obtains that each class shall cover a prescribed amount of work, familiarize themselves with a specified number of pages in the different text-books, in a given time. If the different members of the class pass a creditable examination at the end of a specified time, well and good; they pass. But if one poor unfortunate fails to make the required per cent., he does not pass. Sometimes he ought not. But every observing teacher of experience well knows that scholars of worth, scholars the peers of the best in the class, in all that goes to make up honest worth, sometimes fall below the established standard, and are not allowed to pass to the next higher grade. Trivial technicalities sometimes eclipse real worth.

"In one of the foremost schools in the State, a young man was defrauded of his rank in the class merely because he spelled one little word wrongly. He had spelled it correctly a score of times in the same paper. The result was he ranked second to an inferior classmate in the published reports. The teacher mentally rebelled, but such a course was demanded by the methods then in use.

"In this way an injustice to real merit is often done. What teacher does not know the standing of the scholar as well before examination as after? If a class in any grade, through the carelessness of the teacher in charge, accomplish the required work in less than the allotted time, what then? It is charged that sometimes such a class has been held at the specified limits for weeks and not allowed to advance in their work. The rules demanded it. Rules must be kept inviolate even if the scholar suffer! He is made for the school, and not the school for him! The teacher, in such a case, is supposed to have done her work in an imperfect manner, and is to blame. If the class *fail* to do the specified work, then there is again something wrong with the teacher of the class. She must be held responsible. What if she plead earnest effort and unsparing pains, or a wide difference in the ability of the classes? There is a failure, and she being human has erred! The rule cannot be in error, for that is not human, not *humane*, for that matter. Teacher and class may be blamed, may suffer; but 'our methods' must be carried out without 'variation or shadow of turning'! What is the use of having rules unless they be lived up to? Did it never occur to such a teacher that a little elasticity in rules will not vitiate their strength?

"Every well-prepared programme divides school time into recitation and study hours. This is all well. But is it just the right thing to say that every scholar in such class shall devote the time allotted to any one study to that alone, and always, and not be allowed to leave it, when learned, for another? If one brighter than others in the class needs less time for a certain lesson, but more for another in which he finds greater difficulty, is it not an injustice to him to be held to the strict letter of the law? And yet such things do happen.

"In moving classes much needless circumlocution is employed. Of course every class must be moved at all times and under all circumstances by the same signals and in the same exact order! Uniformity is order *always!* Our worthy ex-State Superintendent, Prof. Von Coelln, gives a good illustration. He relates that in one school which he visited, nine taps of the bell brought the class promptly and orderly to the recitation seat, and as many more returned it in safety and in an orderly manner to its seat. Nine signals seem rather superabundant to move any class; but how all-sufficient they seem when, as in the case cited, the class consists of only one young man. Doubtless the teacher acted very conscientiously in the matter; but her conscientiousness did not go far in developing the individuality or the independence of the scholar, and possibly developed a feeling of contempt on the part of the young man for rules and regulations in general.

"But little more wisdom was shown when another teacher suspended recitations an hour while a boy went for her call-bell carelessly left at home. A bell had always been used to move classes, and strict method required it then.

"Over-methodizing may defraud the scholar out of his rights, out of that which was promised him by his teacher. Fifteen-minute recesses are very often laid down on our programmes, in which time the scholar is promised a release from the exactions of the schoolroom. He understands that this time is his, to be used in any proper manner that he may choose. And yet he is not unfrequently required to surrender one-half of it for forming into lines, marching and counter-marching, or worse yet, in waiting.

"Several years ago the writer saw the scholars of two rooms kept in line several minutes, one bleak, wintry day, while the teacher of one room brought a dish of water and one small boy near the head of the line washed and dried his hands and received his reprimand. The other line could not be allowed to pass through its separate door till the line in which was the boy of the dirty hands had entered. The usual methods must be carried out to the letter. Exposure of the child's health, or the deprivation of his promised rights, are of minor importance! What right had that teacher to punish the whole school—yes, two schools—for the fault or carelessness of one boy? Why did she not draw him out of the line and let the others pass in? Doubtless because there was no precedent for it. 'Ye pay tithes of mint and anise and cummin and neglect the weightier things of the law,' is as true here and now as when proclaimed by the Great Teacher nineteen centuries ago.

"Treat all your scholars alike, show no partiality, is an excellent rule. In order to carry out this law, a set of rules is laid down covering as many possible cases as the fertile mind of the teacher can suggest, and each rule has its exact and specific penalty attached. Happy in the consciousness that the best methods have been adopted, and that all may now be treated impartially, the work goes on. Two scholars have broken the same rule—one a timid little girl, as delicate and frail as she is conscientious and obedient, carefully nurtured by loving parents, and a stranger to the penal code; the other, the proverbial 'worst boy in the school,' to whom punishment is a pastime. Ten minutes on the floor, exposed to the gaze of the school, is agony to the one and a recreation to the other. And yet some teachers seem to think that in thus carrying out the letter of the law they are guilty of no crime! Time may not reveal the fact to their sluggish minds, but eternity will. A little less method and more common sense would have resulted in less cruelty to the one and a better correction to the other.

"'A cast-iron rule is the wisdom of fools,' is a proverb that applies to school economy no less than to political, and the teacher that is not able to adjust methods to particular cases has yet something to learn in theory and practice. Too much method is bad enough in the hands of an otherwise prudent teacher, but when applied by ignorance certainly is not much improved.

That exactness which takes all responsibility from the scholar and yet holds him responsible for every little irregularity, is not calculated to bring about the best results. Tell the scholar what you require of him, and point out to him the precise manner in which everything must be done; omit not the slightest detail; train him day by day to act out *your mind* in *your manner*, and, pray tell, what is there left of *him?* It is all of *you*. No child of spirit or enterprise will willingly submit, and he ought not. His obedience will be yielded under protest, and it should be. None but slaves have long submitted. Manhood rebels against such tyranny. To illustrate: In one of our city schools, it is said, is a rule that no child, in passing up or down stairs, shall break the line, or the step, or speak, or whisper, or look backward, or sideways, or put a hand on the hand-rails, &c., &c. If any one of these multitudinous parts of the rule is broken, the 'culprit' is recalled to his room and set to work at some task, writing a certain number of words on the blackboard, or studying so many minutes, or some other similar punishment. What is study worth to him under such circumstances? And is there any love of study awakened in the mind of the scholar? Will he not soon learn to associate books and study with punishment? And what but fear is the restraining force? Has his honor or love of right, for the sake of it, been developed?

"Several years ago I saw, while visiting Massachusetts State Prison, a practice somewhat similar, though less exacting in some things. Hardened criminals were being dealt with there. Fear was the inciting cause to obedience, and continual punishment the end to be attained. Shall we make our schools institutions of like character?

"The boy is the man in embryo. He is a distinct individual now as well as then, possessed of attributes and native qualities peculiar to himself, either as boy or man. To so develop the better qualities, and so increase their growth that they will overtop the worse ones, will generally more successfully develop the better man. Being peculiarly sensitive, he is easily influenced by whatever transpires around him; being full of curiosity he sees everything, estimates each and all, and if of value seeks to make it his own, and if thought worthless he throws it aside. No eye is keener than his to discern the ludicrous or ridiculous; and while at times he may show that he is well stocked with both, he will not willingly yield his consent to have them practised on him by others. He often chafes under reasonable restraints, but his better judgment urges him to submit; but when his judgment condemns them, the only restraining force left him is either love of reward or praise, or fear

of punishment, both attributes of a lower order. When the best judgment of the scholar is in harmony with the means employed, the teacher's success is well assured. But when the teacher and too much method are found on one side and the boy's nature and judgment on the other, a continual warfare must be waged, and ten to one the latter wins.

"But it may be urged that it would not be wise for a teacher to set aside plans thought to be good merely because they do not succeed. If they are right they must in the end succeed. Are there not other methods equally good that may be substituted? or may not the offensive features be set aside if better results will follow? A successful physician notes the effects of his medicines, and changes them if the effect is bad, and often simplifies his remedies. The quack repeats the dose, let it kill or cure.

"It would be well to keep in mind the saying of the apostle: 'When I was a child I spake as a child, I thought as a child, I understood as a child; but when I became a man I put away childish things,' and put away some of the minutiæ of the primary-room discipline, as the grade advances. Each higher grade should be surrounded by a changed atmosphere in methods as well as in books. Methods in every respect proper in the primary classes may be a misfit in the higher grades. Many things may be lopped off and enough still be left for effective work.

Whatever tends to destroy a child's individuality, weakens him and robs him of his best estate.

Take him as you find him; strive to eradicate the bad by implanting the good; instil right principles and desires in the place of wrong ones; refine his grossness of thought and of act, less by precept than example; establish the habit of correct comparisons between right and wrong, between the true and false; teach him to think and to do; be a leader, not a driver. In short, eliminate all the bad you find in him; cherish and develop all the good; improve him all you can; develop his manhood by placing proper incentives before him, rather than a labyrinth of rules and methods around him; but leave him himself, not yourself, nor anyone else, nor simply a parrot, a reflector, a machine. The market is already overstocked with such commodities; individuality is at a premium.

"Such methods, and employed in such a manner as will prove conducive to the best development of the boy into the man, the girl into the woman, enlarged, full grown, true and noble, may safely be retained; but such as tend to stunt his growth, to develop a thing, a dwarf, a man devoid of true manhood, may, with much propriety, be discarded."—*The Western Educational Journal.*

Notes and News.

ONTARIO.

A young lad named Green, attending Mitchell school, had his face kicked and mutilated for taking the part of a small boy whom some three or four young rascals were tormenting in the school yard. There is entirely too much of this sort of tyranny going on amongst school boys. Such conduct should be sharply checked and the perpetrators severely punished.

Mr. J. A. Young has been re-engaged for next year as teacher of Ethel Public School. His salary has been increased to $500, which is the best possible index of the efficient and faithful services he has rendered in the past.

The Council of the Ontario School of Art have resolved to grant twelve scholarships, each representing three years of free tuition, to pupils from the public schools of the Province, and six to pupils of the high schools of the Province. The competition for the scholarships will be by examination conducted by the Council.

John W. Shaw, son of the principal of the Brussels Public School, has been engaged as teacher in School Section No. 3, Grey, for 1884, at a salary of $450. The trustees of this school seem to be very fortunate in securing good teachers.

The many friends of Mr. Peter Moir, son of Mrs. Margaret Moir, Usborne, will be pleased to hear that he has been re-engaged as Principal of the school at Sterling, Colorado, for the ensuing year, at a salary of $100 per month.

Mr. John B. McKay, late of Clinton, has just been appointed writing master of Kingston Public Schools, at a salary of $1,000 a year. Although only about 23 years of age, Mr. McKay has already held several important positions, in all of which he has distinguished himself as an expert and beautiful penman.

The annual course of half-hour addresses, which is so interesting a feature of Cobourg Collegiate Institute life, was with an address on "The Benefits of a Classical Education," by Rev. F. H. Wallace, B.D. The subsequent addresses will be on "Then and Now," by Dr. Nelles; "Choice of a Profession," by Rev. Hugh Pedley, B.A.; "Politeness," by Rev. D. L. McRae; "Punctuality," by Rev. Joseph Young; "Our Evenings," by Rev. J. J. Rice; and "System in Study," by Rev. Jas. Roy. LL.D.

The subjects for the Townsend prize speaking and De Forest medal at Yale College are as follows:—1st—Bankruptcy laws; theory of them; difficulties of them; history of unsuccessful attempts to enact them in the United States; reason of failure; history and criticism of those which have been enacted; judicial interpretation of the same; pending proposals and existing facts in regard to them; English legislation. 2nd—The civil and political significance of the Reformation. 3rd—The influence in literature of the Tractarian Movement in the English Church. 4th—Turgenieff and Russian politics. 5th—Satire as an element in Roman literature. 6th—Contrasts in the history of parliamentary Governments in England and in France. 7th—Hildebrand. 8th—Civil and social rights; define and distinguish guarantees of each; history and criticism of legislative attempts to secure each; race question connected with each; negroes and Chinese. 9th—Local and self-government as illustrated by Mr. Gladstone's attempt to solve the Irish Problem.

The West Huron Teachers' Association met in the High School, Goderich, the President in the chair. The committees necessary for forwarding the business of the association being nominated, and the business committee reporting, the programme was proceeded with. Mr. J. C. Smith was called on to read his paper on "The Teacher's Duty." Mr. R. E. Brown then read an essay on the "Means and Ends of Education." He stated that a university medal did not make a practical man, nor necessarily a useful man in society. The teacher should be practical and abreast of the times. Education should be for the best interests of mankind, everything should be excluded which is out of date.

Mr. J. C. Linklater, formerly of East Wawanosh, has been engaged as second teacher in the Clinton Model School at a salary of $500 per annum.

Mr. John Wilson has been re-engaged as teacher in School Section No. 9, Hullet, for next year. This will be Mr. Wilson's eleventh year in that section, which shows that the trustees know enough to retain a good man when they have one.

The following teachers have been engaged for the coming year for Exeter Public School: 1st room, Mr. Gregory; 2nd, Miss Dixon; 3rd, Miss Vosper; 4th, Miss Halse; 5th, Miss Croley; 6th, Miss Helyar.

The re-engagement of the present teachers in Stratford Public Schools has been decided on at the following salaries: Mr. Chadwick, $800; Miss E. L. Walker, $475; Miss Ross, $375; Miss Greenly, $350; Mrs. Miller, $375; Miss E. Walker, $325; Miss Mackenzie, $300; Miss Hay, $275; Miss Duncan, $225; Miss R. Walker, $325; Miss Gorden, $275; Miss Hepburn, $200; Mrs. Warburton, $350; Miss L. Dent, $300; Miss B. Dent, $300; Miss Patterson, $300; Miss Forman, $250.

The staff for next year at Brussels is: J. Shaw, principal, salary $700; Miss Higgins, 2nd room, salary $325; Miss Ross, 3rd room, salary, $260; Miss Ross, 5th room, salary, $225.

All the female teachers in St. Mary's Public School have been re-engaged for 1884. All but one have received an advance of $25 in their salaries. The teachers and salaries are as follows: Miss Campbell, $400; Miss J. Knox, $325; Miss Cruttenden, $275; Miss Watt, $275; Miss Barbour, $275; Miss A. Knox, $250; Miss A. Wilson, $225; Miss Pook, $225.

Mr. George Moir, who for several years has filled the position of Principal of the Public Schools of St. Mary's, has decided to go into the newspaper business, and has purchased the Exeter *Reflector*. He has already taken possession, and the Trustee Board, at a meeting on Monday evening last, allowed him to employ a substitute for a month. Mr. Moir will certainly make an energetic newspaper man, and will bring the *Reflector* into the front rank of local journals. We wish him all success. Mr. Moir received a purse of $165 and a beautiful address previously to his resigning the principalship. Mr. Laird, of Avondale, is Mr. Moir's successor.

The semi-annual convention of the Toronto Teachers' Association concluded its session Saturday forenoon. During the convention several important papers were read, particularly upon the effect on young pupils of competitive examinations. A motion was passed requesting the School Board to employ professional oculists to make a careful examination into the condition of the eyes of the pupils in one or more Public Schools, with a view to finding whether shortsightedness exists to a large extent, and of suggesting the best means of preventive.—*Globe.*

At a meeting of the Toronto Ministerial Association held in Shaftesbury Hall Nov. 5th over forty ministers were present. A plan for the systematic visitation of the Public Schools by resident ministers was submitted by Dr. Rose, and, with some slight changes, was adopted. Once a month at least the scholars and teachers of the schools may expect a visit from some one or more of the ministers, to give counsel and encouragement in connection with the work of Public School education. We chronicle this new departure with unfeigned pleasure. Ministers everywhere should fall in line and imitate this noble example. A few visits to our schools will cure them of the "Godless" heresy, and will do more real good to the rising generation than cataracts of eloquence on scepticism, scientific intellectualism, Darwinism, Tyndallism, and other threadbare topics. Gentlemen of the white choker, welcome to the Public and High Schools, come on.

Of the 46 candidates from the Chatham High School who wrote at the July examinations, 41, or 89 per cent., passed, viz. :—18 Intermediate, 20 Third Class, and 3 Second B's. Miss Addie Stone, a pupil of this school, matriculated at Toronto in July, with honors in French and German.

Mr. C. W. Chadwick has been appointed principal of the Stratford Model School at $800.

Thirty-four teachers' conventions in Ontario have recommended Gage's Canadian Readers, while *not one* has recommended the Nelson-Campbell Royal Readers. Who are better judges of the merits of readers than the teachers ?—*Canadian Statesman.*

This department is under obligation to many friends who send copies of local papers containing valuable items of educational news. If such friends would kindly mark the items, or, still better, enclose them in an envelope without sealing, the work of the editor would be greatly facilitated. In this matter we must throw ourselves entirely upon the kindness of our friends, as we have found from expensive experience that it is absolutely impossible to collect the current educational intelligence in any other way. To friends who will regularly send us the news of their several districts, we should be glad to send in return copies of our numerous exchanges. We want a local correspondent in every township in the province.

Clarke Moses, Esq., I.P.S. for Haldimand, was presented with a $200 gold watch and chain by the teachers of his inspectorate, as a slight acknowledgment of their appreciation of his many merits.

Mr. Marcus Jacques, of New Hamburg, has been appointed principal of the Perth Model School at a salary of $650.

The *Georgetown Herald* speaks to the point regarding low salaries. It says : "We believe that the Public School teachers of Georgetown receive about the smallest pay for their work of any in the province. The idea of a young lady spending her time and money preparing herself to teach, and then receiving the noble sum of $225, $230, or at the highest $250. Why, an ordinary house servant receives better compensation than that. Now, what is the result of this parsimony? Simply that no good teacher will remain here for any length of time, and as a consequence the schools are suffering from constant change. The small salary granted to our teachers has the effect of driving those best qualified into other employments, to the serious injury of the educational interests of this country." Long live the *Herald.*

At the last intermediate examination of the Strathroy High School, one-quarter of all grades obtained certificates. Out of twelve candidates for second class, six obtained grade A and five obtained grade B.

Canada School Journal.—The November number of the Canada School Journal in addition to pungent editorials contains Dr. Oldright's admirable paper on School Hygiene, read at the recent meeting of the Ontario Teachers' Association, a number of well-selected articles, and news items interesting to the members of the profession for whom the magazine is especially designed.—*Canada Presbyterian.*

The salary of Miss Pottinger, assistant in the Sarnia High School, has been increased to $550. Mr. Wark, principal of the Model School, has also received an addition of $100 for extra duties, making his salary $850.

The Strathroy High School Board is to be congratulated on the acquisition of Mr. Wetherell as head master for their school, at a salary of $1,400 per annum. For the last two or three years he has occupied the position of head master of the St. Mary's Collegiate Institute, with distinguished success. As successor to Messrs. Hodgson, Dale, Tytler, and even Dr. McLellan in his last position, he has proved himself able to keep up the high standing of that school, and in Strathroy there is every reason to believe he will be even more successful. Mr. Wetherell has made himself a reputation during the last few years by his editions of classical works, such as Virgil and Cato Major. These books are highly valued by the students for whose use they are intended.

Perhaps some of our readers can tell what the London *Advertiser* means when it says : Now that the school holidays are approaching we sincerely hope we shall hear of a present being given to some teacher because of its intrinsic value. This "token of esteem" business does not cost enough to be interesting.—*Stratford Beacon.*

Sweaborg Public School.—With pleasure we have been informed that the trustees of this school have voluntarily and unsolicited added a sum of fifty dollars to the salary of Mr. Theophilus Joseph Parr, who has been in charge of the school during the past year, thus furnishing the snug little sum of $525 per annum for duties well and faithfully done. The trustees have, we think, acted wisely in so doing, and have abundantly testified to their own intelligence in so quickly discerning the "pure gold" in the character and capabilities of their young teacher. Mr. Parr is an excellent scholar, and a matriculant of the Toronto University, also an accomplished elocutionist. We wish him still further success, and trust that other honors await him in this as well as in the higher office to which he aspires.—*Sentinel Review.*

The following are the demands of the *Catholic Record* in regard to the Separate Schools :—"1. The portfolio of education kept in the hands of a minister, who should be assisted by two deputy ministers, one of them a Catholic. 2. A Council of Public Instruction, and this divided into two sections, 'one Catholic, and the other non-Catholic.' 3. The 'establishment and partial endowment' of a Catholic University—that is, the payment of money out of the provincial treasury in support of a Catholic College with university powers. 4. A Catholic Normal School for the training of teachers. 5. The establishment of Catholic High Schools for boys, and public aid for both these high schools and the convent schools in which girls are now educated. 6. A Catholic central committee of examiners, and also Catholic county examiners. 7. A system of inspection of Catholic schools corresponding to the present system of inspection of Public Schools. 8. Township school districts and boards of trustees, with those schools that are supported by a Catholic majority considered as Catholic schools, and those supported by a Protestant majority treated as Protestant. 9. Special legislative aid granted to 'dissentient schools, whether Protestant or Catholic,' whenever the minority find difficulty in supporting them properly. 10. No text-books approved for Catholic schools by the Education Department without the consent of the Catholic portion of the proposed Council of Public Instruction. 11. No Catholic permitted to apply his school taxes to the support of any other than a Catholic school, and a share of the taxes paid by corporations, apportioned according to the ratio of Catholic to Protestant population, applied in support of Catholic schools. 12. Power given to a Catholic or Protestant minority to apply their taxes in support of a school of their own complexion in an adjacent municipality."

NOVA SCOTIA.

The annual session of the Provincial Normal School at Truro opened on the 14th ult. On the platform of the spacious Assembly Hall were seated Ex-Governor Archibald, Dr. Allison, Supt. of Education, Col. W. M. Blair, M.P.P., the Faculty of the School, and a number of the leading citizens of Truro. The inaugural address was delivered by Principal Calkin, and was a very able presentation of the true details of school education. Short addresses followed from Professors Hall and Eaton, Ex-Governor Archibald, Col. Blair, and the Superintendent of Education. It was announced that over one hundred and fifty applications for admission had been received, and that one hundred and twenty pupil-teachers were in actual attendance. Mr. D. McD. Clarke has been engaged temporarily to take charge of the newly organized preparatory department.

The annual Convocation of Dalhousie College was held in the Legislative Assembly room on the 30th of October. A brilliant audience was in attendance. Dr. Weldon, Dean of the Law Faculty, delivered the customary oration. The provisions made in various countries for legal education were interestingly discussed, and an eloquent sketch was given of the great rival systems of Roman and English law. The address, which was an exceedingly able one, concluded as follows :—"To praise the English common law 'is wasteful and ridiculous excess.' No one needs to praise it. No one needs to praise the Parthenon, or the Venus de Melo, or the Sistine Madonna, or the symphony in C, minor or King Lear. England is one of *many* great nations. The English literature is one of *many* rich and beautiful literatures, but the English law is one of *two* great systems of jurisprudence. This wonderful fact says more than a hundred eulogies. So much of the best brain and blood of the brightest men of the cleverest race in Europe has gone to build up the common law of England, that it behooves us all in our studies to come with the reverence of children and sit at the feet of those statesmen, lawyers, and judges, who through so many generations have been formulating this law. We know how arduously these men wrought for us, with what fortitude they suffered, with what calm faith they did their duty in their time, leaving their fame to the wise years that were to come, and we cannot study their works without feeling

"Our hearts run o'er,
With silent worship of these great of old,
These dead but sceptred sovereigns
Who still rule our spirit from their urns."

The customary announcements regarding exhibitions and bursaries were made. A very large and promising Freshmen Class had matriculated. The new Law School had a registration of about 40. Altogether Dalhousie's prospects were never brighter.

A Chair of Didactics has been established in Acadia College. The acceptance of this Chair by Dr. Rand, Chief Superintendent of Education for New Brunswick, removes from the direct sphere of public education one of its most accomplished, successful, and widely known representatives. Some little controversy has arisen among the friends of Acadia College as to the wisdom of establishing such a Chair at this precise juncture. Dr. Rand's qualifications for filling it efficiently, nay, his ability to give it special character and value, are universally assumed. The Doctor's return to Nova Scotia will be warmly welcomed by friends made during his administration of educational affairs there.

There are upwards of 500 pupils registered in the Public Schools of North Sydney, C. B. This is the largest registration on the island of Cape Breton. The schools are in an eminently satisfactory condition.

Benjamin Curren, Esq., M.A., D.C.L., for a number of years past Supervisor of Schools for the city of Halifax, has resigned. Considerable interest attaches to the appointment of his successor. The Supervisor is purely an officer of the local board, having no Provincial authority or responsibility whatever.

The Junior and Senior Exhibition and Bursary Examinations at Dalhousie College took place on the 18th and 20th ult. Results will be announced next month.

The following is the report of proceedings of the Provincial Educational Association, resumed from the September issue :—

The first day's evening session was introduced by an admirable paper on "The Kindergarten System,' by Miss Jessie Campbell. As a practical Kindergarten teacher and graduate of a noted institution in the United States, where the principles and practice of the system are scientifically taught, Miss Campbell was enabled to unfold her subject in a most lucid manner. A large and brilliant audience was in attendance. The Committee on a "Course of Study for High Schools" reported, and some progress in discussing the report had been made when the hour for adjournment arrived.

Thursday morning's session was led off by E. H. Owen, Esq., of the Lunenburg Academy, with an outline of "Practical Methods in Navigation." Mr. Owen's methods, which have been applied with great success in the busy maritime town in which he resides, elicited several pertinent interrogatories, and seemed to strike the association very favorably. Then followed an interesting class exercise on Botany, by Miss Findlay, of Dartmouth. Miss Findlay succeeded not only in exhibiting a well-trained class, but in showing the capacity of children to acquire scientific information. She very appropriately took the opportunity to advise teachers not to neglect the training of the observing powers and the faculty of generalization. Time required for cultivating a proper acquaintance with the facts and laws of nature might be gained by paying less attention to mere *memoriter* recitation, which does little to feed and strengthen the mind

F. H. Eaton, A.M., Professor of Mathematics in the Provincial Normal School, then presented a paper on the "Certification of Teachers," which was received with great attention. He regretted the fact that numbers of teachers possessed certificates who failed to impress any one with the idea that they possessed an adequate amount of knowledge and understanding to entitle them to hold them. Teachers' education was too much theoretical and not sufficiently practical. For the holders of third class certificates particularly he thought something should be done to urge them to greater proficiency and the obtaining of a higher degree; the time of such certificates might be limited instead of permanent. He advocated a connecting link between high schools and colleges, and thought matriculation of the latter from the former should be abolished on certificates of competency from the Educational Department. He advocated far greater attention in our educational system, to scientific experimentation, physiological psychology, history of education and educational literature. He would like to see greater unanimity in the educational system throughout, from the primary common schools to the highest education, and advised the use of all methods for elevating the general standard of instructors and instruction. His paper treated of a very pertinent subject in a very interesting and, in the points touched upon, exhaustive manner.

J. B. Calkin, Esq., A.M., Principal of the Provincial Normal School, next read a very interesting paper on "Composition," treating the subject in detail. He gave his views in a lucid manner as to the best methods of instruction in the great art of being able aptly to express one's thoughts; and illustrated his remarks with examples of various styles of rhetorical accuracy and inaccuracy. Some of these were amusing as well as very telling, and the whole matter was represented in a very attractive style.

At the afternoon session, Mr. Lay, Principal of Amherst Academy, read a paper on the "Examination of High Schools." Examinations he said were held for two purposes, first for the purpose of having knowledge tested, as in schools and colleges; secondly, for the purpose of selection, as for teachers. Examinations act as a stimulant. This is proved by the higher standards, as in the London University. Again, examinations exact from each candidate correct, clear, and distinct expression. He lamented that we had no educational tests universally applied that would bring us up to a common standard. He advised that two examinations be held in all High Schools, one at the end of the second year and another at the end of the third. He then reviewed the various examination systems in other countries, and aftewards proposed a system that he though would not cost much and would meet the wants of the country.

The paper provoked a lively discussion, perhaps the most lively of the session. It was participated in by Prof. Eaton, Dr. Allison, Mr. McEachern, and Principal Calkin.

Dr. Allison, in answering a question concerning the necessity of having all teachers take a term of professional training, said that what other provinces had done, Nova Scotia could do. We were equal to any. Nova Scotians stood as high in the professions, in politics, in science, in literature, as the people of any other land, and referred to Dr. Dawson, of McGill, Professor Newcombe, and others. He considered that if we were, as some alleged, a poor people, we could and should bequeathe our progeny a good sound education, the genuine article without adulteration.

The following resolution, moved by the Secretary, Mr. McRay, and seconded by Mr. Burbidge, M.A., was adopted after a brief discussion :

Whereas, It has been proved by the experience of our own and other countries that final High School examinations with the granting of diplomas has done very much to stimulate High School work;

And whereas, Greater uniformity in the work of our High Schools is desirable;

Therefore resolved, That this Association hereby expresses its opinion that the time has come when the Council of Public Instruction would act wisely in making arrangements for such unification of High School work and examinations without unnecessary delay.

The evening session was chiefly devoted to the discussion of the proposed Course of Study for High Schools. Before the discussion began the result of the ballot (previously taken) for members of the

Executive Committee was announced, as follows: Principal Mackay, Pictou; Miss McIntosh, Halifax; Miss Silver, Lunenburg; Inspector Morse, Annapolis; Principal Lay, Amherst; H. S. Congdon, Dartmouth: Ass.-Sec. McEachran, Antigonish.

Mr. Murray (Pictou County) criticized the course as being in his opinion defective in the provision made for some uf the sciences.

Mr. Alex. Mackay defended the course as it stands, as being the most logical, and supported his views, which he had satisfied himself by experience were correct, by quoting from so great an educationalist as Dr. Bain, one of the first men on the subject in the old world.

Mr. Murray at this point said he had been misunderstood, and agreed with the others, so far as the science subjects were concerned.

Mr. Magee then moved, seconded by Mr. Murray, that bookkeeping by single entry be made compulsory in the first year's work, and double entry optional in the second year. Principal Calkin suggested that it would be better to omit the clause relating to the second year's work at present and let that take the form of a motion when considering the second year's work. The mover and seconder agreed to this and the motion was put and passed.

After a short discussion the second year's course was adopted, with two slight modifications.

The third year's course was immediately proceeded with, and was discussed by Mr. Davidson, Mr. Tuttle, Mr. McEachern, Mr. Burbidge, and Professor Calkin, and was, after a short and sharp criticism, passed without amendment, Wormell's Natural Philosophy having being dropped from the course by mutual consent.

The whole course was then passed as amended.

It was moved by Principal Burbidge, seconded by Inspector Congdon, that a committee of seven be appointed to inquire into the whole subject of superannuation of teachers. Carried, and the following appointed:—Messrs. Burbidge, Lay, Calkin, McArthur, J. A. Smith, Waddell, Elliott.

Votes of thanks were then passed to the Press for admirable reports, to the railway and steamboat companies, the military authorities, the Y. M. C. A., and all who had in any way shown interest in the meetings.

The second annual meeting of the Alumni Association of the Provincial Normal School was held at Halifax on the 13th July. The chair was taken by W. H. Waddell, Esq., Professor of English in the Halifax High School. He then read a paper on "Teaching as a Profession," in which he showed that it could be made a profession in this province only by the elevation of the educational standing demanded of the teacher. He advocated the compulsory attendance of teachers at the Normal School, the elevation of the standard of admission into that school, and the devotion of a greater part of the time to professional as distinguished from non-professional subjects.

Rev. R. Murray read a short paper on the establishment of a professorship of education in connection with one of our Universities. He showed that the necessity for such a chair existed from the fact that there are 1,900 teachers alone in Nova Scotia, while there are in the Dominion 15,000 for whom it would be especially adapted, saying nothing of those in the other professions for whom it would be equally advantagous. Already there are 11 such chairs in Germany, and all Scotch professors and teachers were in favor of the movement.

A discussion on this and the previous paper was participated in by Prof. Forrest, Prof. MacGregor, Dr. Allison, N. King, and Prof. Eaton.

Mr. J. T. Bulmer then read a paper on the importance of establishing a national bureau of education. He gave a short account of the origin of this department in connection with the Government at Washington, and pointed out the enormous strides made in educational progress in the United States through this agency alone; its usefulness in disseminating information in regard to the methods in use in imparting primary and collegiate instruction.

In endorsation of this, the Superintendent read extracts from the publications of the department, translated from a work used in Switzerland, which he considered one of the best publications on the subject he had ever seen.

Steps were immediately taken by the Alumni to present their views on the importance of the subject to the Government, and also to secure, if possible, from the United States Government a number of their publications, until a similar department is established in Canada.

Principal Calkin, A. H. Mackay, and H. S. Congdon were appointed a committee to carry out the views of the meeting.

They then appointed the officers and executive for the ensuing year:—President, Principal Calkin; Vice-President, A. H. Mackay; Secretary, H. S. Congdon; Executive, Messrs. Alex. Mackay, J. Parsons, H. Waddell, Miss Sarah Findlay, Miss Mackintosh, Miss Mary Hamilton.

The committee decided to have a supper at the next annual meeting, which will be held in Truro.

NEW BRUNSWICK.

A very pleasing occurrence took place at the Education Office, Fredericton, Nov. 17, at 11 o'clock, when a committee from the teachers of the province waited on Dr. Rand and presented him with a testimonial of their regard and esteem for him before his departure to his new field of labor. Among those present were His Hon. Gov. Wilmot, Dr. Jack, Hon. Surveyor-General (the only member of the Executive there that day), Hon. A. F. Randolph, Auditor-General, Mrs. Rand, Mrs. Steadman and others. Inspector Mullin, chairman of the committee, read the following

ADDRESS.

To Theodore H. Rand, D.C.L:—

DEAR SIR,—On the eve of your departure from New Brunswick, after twelve years' service as Chief Superintendent of Education, we, on behalf of the teachers of the province, take great pleasure in expressing to you our deep sense of the eminent services which you have rendered to the cause of education.

We desire to assure you how fully we have appreciated the hearty sympathy and co-operation which you have always been ready to give to the teachers of the province in their efforts after professional excellence.

We wish to express to you our admiration of the ability, energy and devotion which you have always brought to bear upon the work of organizing our Free School system.

We beg that you will accept this epergne as a very small token of the warm and kindly feelings entertained towards you personally by the teachers of the province, and in saying farewell to you we would express our earnest hope that both yourself and Mrs. Rand will enjoy every happiness and blessing in the new sphere of life to which you have been called.

(Signed) ELDON MULLIN,
JEREMIAH MEAGHER,
H. V. B. BRIDGES,
G. R. PARKIN,
WM. CROCKETT.

Accompanying the address was an elegant piece of plate in the shape of an epergne, ornamented with chased, frosted, and gilt finish and handsome cut glass, selected especially by Mr. S. F. Shute, to order, from the Fairpoint Manufacturing Co., of Bedford, Mass., and bearing the following inscription:—

Presented to Theodore H. Rand, D.C.L.,
Chief Supt. of Education, 1871-1883,
On his resignation of office,
By the teachers of New Brunswick.

Dr. Rand very feelingly replied in the following words:—

DR. RAND'S REPLY.

It affords me much satisfaction, gentlemen, to receive from the teachers of the province, and at the hands of so representative and influential a committee of their number, these expressions of your professional regard and personal esteem.

You have been pleased to characterize my services to the cause of education as eminent, and have referred appreciatively to my sympathy with all efforts among teachers for professional excellence, and expressed your admiration of my labors in organizing our free school system. While it is true that I have withheld from the school service nothing that I possessed, I could have accomplished little apart from the co-operation of others, especially the teachers. The real efficiency of our school system must rest in the last analysis upon the directive energy and intelligence of those who preside in the school-rooms of the province, and if my labors have been of service in securing improvement in the qualifications of our teachers, as well as increasing the facilities for the wise and economic exercise of these qualifications, it is a source of gratification to me. I indulge the hope that in the new sphere to which I have been called I may be able to promote the professional interests of teachers, especially of those entrusted with the secondary education, in a more important measure than has hitherto been possible to me.

Most gratefully do I accept this beautiful epergne from the teachers of New Brunswick, as a token of their personal esteem.

I shall never look upon it without thinking of the men and women (all of whose names are in my possession, though their faces may not be familiar) who wrought with me for the intellectual and moral development and training of the youth of New Brunswick, and invoking upon their labors the richest of heaven's blessings in the years that are before them.

Mrs. Rand unites with me in an expression of hearty thanks for your kind wishes for our future happiness.

THEODORE H. RAND.

To Eldon Mullin, G. R. Parkin, A.M., J. Meagher, W. Crockett, A.M., H. V. Bridges, A.M.

The occasion was a most pleasant one, and all present expressed themselves in terms of deep regret at the departure of Dr. Rand, and as heartily joined in best wishes for his future success and happiness.

Previous to the departure of Dr. T. H. Rand to his new field of labor, he was entertained at a complimentary dinner by the citizens of Fredericton. The assembly,—numbering about fifty,—was a most representative one, and the expressions of personal respect were very warm and earnest, while a tone of hearty sincerity characterized all that was said.

MANITOBA.

PRESENTATION TO ARCHDEACON PINKHAM, B.D., LATE SUPERINTENDENT OF EDUCATION.

A large representation of both sections of the Board of Education, the Provincial Government, the Board of School Trustees, of Winnipeg, the City Teachers, pupils of St. John's College and the general public, assembled in the education offices Wednesday, at 4 p.m. for the purpose of bearing a fitting tribute to Ven. Archdeacon Pinkham, late Superintendent of Education, in view of his services to the province during the twelve years of his occupancy of this official position. There were present the Most Rev. Bishop of Rupert's Land, Chairman of the Board of Education, in the chair; Hon. A. M. Sutherland, Provincial Secretary; Mr. J. B. Somerset, Superintendent of Education; Revs. Prof. Hart, Canon O'Meara, and Alexander Matheson, Col. W. N. Kennedy, and Messrs. W. J. James and W. B. Hall, members of the Board; Rev. Prof. Cherrier and Rev. Prof. Cloutier, of St. Boniface College; Rev. Canon Matheson, St. John's College; Rev. Prof. Bryce, Manitoba College; Mr. Stewart Mulvey, Chairman of the Protestant Board of School Trustees, Winnipeg; Mr. C. R. Tuttle, Chairman of School Management Committee, do.; Mr. W. F. Luxton; Dr. Agnew; Mr. John Fawcett, A.B., inspector, city schools; Rev. Benjamin Franklin, B.A., inspector, Big Plain; Mr. Galton, principal, Collegiate Department, Winnipeg; Mr. W. A. McIntyre, principal, Boys' Central School; Mr. J. D. Hunt, principal, Girls' Central School; Messrs. Reid, Hewitt, and Bamford, teachers of city schools; Messrs. Fortin, Goulding, and Kirby, students, St. John's College, and others.

His Lordship the Bishop of Rupert's Land introduced the object of the meeting in a very happy speech, in which he reviewed the past condition of educational affairs in the province, and contrasted it with its present state, showing the immense progress that has been made during the last 12 years, which is mainly due to the zeal, energy, and practical ability of Archdeacon Pinkham. His Lordship then read the following

ADDRESS.

To the Venerable Archdeacon Pinkham, B.D.:

DEAR SIR,—We, the members of the Board of Education, cannot allow the occasion of your retirement from the position of Superintendent of Education for Protestant schools to pass without expressing to you our deep sense of the invaluable services which you have conferred upon the cause of education throughout the North-West by the wisdom and energy of your administration of educational matters through the 12 years during which you occupied your late position. When we consider that in the infancy of the province, in the midst of grave difficulties and serious discouragements, you initiated and nursed into healthy and prosperous existence our present most excellent and successful system of education; when we remember the patient labor and unwearying energy which you have always bestowed upon the important trust committed to you; when we note the rapid rise of our educational system during your term of office, and recollect that this extension is largely due to your unvarying diligence in the discharge of your important trust; when we think of all this we feel that no public recognition of your services, however hearty, however universal, can be at all commensurate with the debt of gratitude under which you have laid the whole community, by the manner in which you have discharged the duties of your office. We would also desire to place on record our sense of the invariable courtesy and kindness of manner which has always marked your dealings with all with whom the duties of your position have brought you in contact—a courtesy so marked, a kindness so unvarying, that after discharging very faithfully the duties of your post you now retire, and leave behind none who do not entertain feelings of the warmest regard and friendship.

As a token of the sincerity of this feeling to which we have here given expression, we would beg your acceptance of the accompanying watch and chain, and we would express the hope that the abundant blessings of God may rest upon you in the important position which you now occupy, and we trust that you may long be spared to aid the cause of education by your advice and the results of your ripe experience.

Mr. Stewart Mulvey followed with an address from the general committee representing the Board of School Trustees of the city and teachers and throughout the province. He referred to the proud position which Winnipeg occupied in regard to schools, and attributed this largely to the energy, zeal, and faithful working of the late Superintendent of Education.

ADDRESS OF WINNIPEG TRUSTEES AND OTHERS.

To the Venerable Archdeacon Pinkham:

REV. AND DEAR SIR,—On this occasion of our first formal notice of your retirement from the position of Superintendent of Education, we desire, on behalf of the trustees, teachers, and friends of education throughout this city and province, to give expression to the universal feeling of appreciation that we believe to pervade all classes of the community in connection with the services you have rendered to the cause of education in this province, and the no less general sentiment of regret that you have considered it necessary in view of other claims upon your time and energy that have presented themselves to you as a call to higher duty to sever those relations that have subsisted for the past twelve years, during which our educational system has developed from the smallest and most crude beginnings into one of which this new province is proud, and of which no community need be ashamed.

In your personal intercourse with school officers your uniform courtesy and urbanity have won the respect and esteem of the people; your unfailing evenness of temper have smoothed over many difficulties; your strong common sense has enabled you to administer the law and regulations with wise adaptation to the ever-varying circumstances of new settlements, and your ready sympathy has been the support and encouragement of teachers and others whose duties placed them in a position to need it.

We trust that in your future sphere of duty your usefulness may be no less marked than it has hitherto been, and that you may find that your conscientious response to the call of duty may be followed not only by the satisfaction that arises from a sense of its faithful performance, but also that you may have the happiness of seeing your field of labor productive and ripe for the harvest.

We beg you to accept this gift, which we are sure you will value the more that it is the spontaneous and unsolicited expression of esteem by many in the city and province, who now address you through us.

(Signed)

STEWART MULVEY,
W. N. KENNEDY,
W. T. LUXTON,
J. B. SOMERSET,
} Committee.

WINNIPEG, 7th Nov., 1883.

The watch and chain referred to in the former address are valued at $180; and the gift alluded to in the latter is a magnificent silver tea set, with a tray, and also an epergne, worth $200.

Hon. A. M. Sutherland, Provincial Secretary, spoke at some length expressive of the great satisfaction felt by the local Government at the condition of education in the province, and stated that the Government had taken the responsibility of giving $1,000 to the retiring Superintendent as a small recognition of his services to this country.

Ven. Archdeacon Pinkham read the following reply:

MY LORD AND GENTLEMEN,—The present is one of those trying times in a man's life when he would fain say nothing, since it is so difficult to give right expression to his emotions.

I know that the too kind words I have just listened to are spoken in all sincerity, because my official career has been marked from its beginning to its close by treatment which left no doubt in my mind as to the sentiments entertained for me by my colleagues on the Board of Education, and all those with whom I have had official connection; and yet, gentlemen, I do not deserve them more than hundreds of others who are animated by as high a sense of duty, and whose work is carried to as successful an issue, but who neither receive the sympathy and co-operation of others while it is being done, nor are rewarded as I have just been at its close.

Adapting the words to suit the occasion, I can say with the author of the Gentle Life, "The hints of others, the kindness of friends, the wants of society, and the general thought floating about the world at the time—these have been the wind and the tide which have given our educational ships so far a favorable voyage, and not the skill of one of her superior officers, though his position has been a prominent one."

I can truthfully say that my work as Superintendent of Education has been a labor of love, that it has been of inestimable value to me in various ways, and that nothing but the strongest sense of duty or the feeling that I was no longer wanted for it could have forced me to relinquish it. I thought at one time that I might have passed my life in the office, while continuing to exercise as far as might be the duties of a clergyman, but when in the Providence of God a wider sphere of usefulness in the ministry presented itself, through the kindness and confidence of my bishop, I felt I must resign my educational work, dear as it had grown.

I shall never cease to be thankful for the benefits I have received from my intercourse with the other members of the Board of Education.

When we consider the state of feeling in this country shortly before its formation as a province, it speaks well for the heads of the different churches and others who were for this purpose associated with them that they have been found co-operating in the most cordial and enlightened manner to evolve a system of education which is attracting attention in different parts of the world, and which will in time, we think, fully justify all the expectations of its admirers. As far as I can remember, there has never been in all our intercourse anything inconsistent with the character of Christian gentlemen, engaged in a most important work. Why my share in it has been so highly appreciated, and why above all else it has been my

lot to have had trustees, teachers, and inspectors willing in almost every case, to co-operate in the heartiest way to bring about the results to which all our labors were directed, and a public opinion almost always ready to endorse our action—these are questions I cannot answer,—I can only express my most sincere gratitude that such has been the case.

Gentlemen, accept my heartfelt gratitude for these tangible tokens of your good will. Nothing can ever efface the memory of your kindness during my official career or your munificence at its close.

After a short address from Prof. Hart, bearing testimony to the zeal, efficiency, and marked success of the late Superintendent, the meeting adjourned.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

NORTH SIMCOE.—Held in Model School, Barrie, Oct. 25th and 26th. Inspector J. C. Morgan, M.A., president, called the meeting to order at 10 a.m., and the minutes of previous meeting were read by Mr. R. R. Jennison, secretary, and passed. J. M. Hunter, M.A., gave a short report of proceedings of Provincial Association, to which he was delegate, and Mr. Young, another delegate, gave some additional information. On motion by Mr. Harvey, seconded by Mr. Jennison, a vote of thanks was given to the delegates, after which a general discussion took place on the several points mentioned in the report. The afternoon session was largely attended, and much interest was shown in the subjects put forward. Mr. R. Drinnan, of Midland, in showing how he would introduce Arithmetic to a primary class, gave some excellent hints, and at the conclusion of the exercise a spirited discussion arose which was joined in by Messrs. Finney, Harvey, Bartlett, Osborne, and Richardson. The president then gave a clear exposition of his method of treating the subject, which elicited general satisfaction. Mr. C. J. Dutton, of Medonte, took up a junior third class in L.C.M., and succeeded in making the subject thoroughly understood. His method was criticised by several of the members, and Mr. Bartlett exemplified his plans for teaching that rule, and also some of those dwelt on by Mr. Drinnan. The result was that some new and useful features were developed. Miss Cain, of New Lowell, gave an interesting lesson to a junior class, in Geography. In the evening a large audience assembled in the basement of the Congregational Church to hear a discussion on a General Superintendent in lieu of a Minister of Education The president occupied the chair. The subject was introduced by J. M. Hunter, M.A., Barrie Coll. Inst., and subsequently joined in by Messrs. Harvey, Spotton, M.A., A. McNamara, and Finney. On the motion of Mr. McNamara, seconded by Mr. Finney, it was resolved to postpone further discussion till next meeting to give the members an opportunity of studying the subject more closely. *Second Day.*—Mr. N. N. Barnhart, of Coulson, gave an excellent address on School Discipline. The discussion which ensued was joined in by Messrs. Finney, Young, Harvey, Jennison, and Bartlett, and although some of the views expressed in the address were strongly opposed, Mr. Barnhart maintained his ground with an ability remarkable in so young a teacher. He was tendered the cordial thanks of the association, on the motion of Mr. Harvey, seconded by Mr. Findlayson. The discussion of the Reader question absorbed the rest of the time devoted to business. The debate was opened by Mr. J. L. Robertson, representing the firm of W. J. Gage & Co., and he was followed by Messrs. Harvey, Hunter, M.A., Spotton, M.A., Campbell, McNamara, Richardson, Young, and others. On the motion of Mr. N. Campbell, seconded by Mr. Andrew McNamara, a resolution was passed in favor of Gage's Canadian Readers, by 29 to 6. The convention then adjourned.

CAPE BRETON.—The fourth annual convention of the teachers of Cape Breton and Richmond was held in Sydney Academy, Oct. 4th and 5th. About seventy teachers were in attendance. The chair was occupied by M. J. T. McNeil, Esq., inspector of schools and president of the association. After a most instructive address from the president, in which he gave some valuable suggestions on the best methods of giving instruction in the leading subjects of study in Public Schools, the general business of the association was taken up, It consisted of interesting papers on Geography, by Mr. Bissett; The Duties of the Public in Connection with Education, by Mr. E. T. Maclean; Technical Education, by Mr. D. McK. Gillis; Hygiene, by Dr. McKay; and one on The Teacher's Duties, which concluded the exercises of a most enjoyable and instructive meeting. The officers for the current year are: President, Inspector McNeil; 1st Vice-President, A. Kennedy; 2nd Vice-President, Miss A. E. Harrington; Secretary-Treasurer, E. T. Mackeen; Executive Committee, Misses McKenna and Hanrahan, Messrs. Haggerty, McIntyre, and Phalen.

Write to your friends about the *Journal*.

STORMONT.—The thirteenth half-yearly meeting of the Stormont Teachers' Association took place in the High School building, Cornwall, on the 25th and 26th October. After the assembly was called to order and the minutes of the preceding meeting read and approved, the real work of the session was begun by Mr. Talbot, who with a class illustrated his method of teaching Fractions. The clear and practical manner in which he dealt with his subject commended itself to those present, and was accordingly commended by them. Mr. Harrington read a carefully prepared paper on Gray's Elegy, which elicited for the essayist the compliments of his listeners. At this stage of the proceedings it was resolved that the strangers present, of whom there were quite a number, including representatives of different publishing houses, should be invited to take part in the discussions. Mr. Talbot took up the next subject, "The Art of Questioning," and divided and defined the different kinds of questions and the purposes of each in a most satisfactory manner. A dispute having arisen as to the eligibility of Model School students to become members of the association, a resolution was passed to so amend the constitution as to make them admissible, also others interested in the cause of education. Miss Carpenter gave an Object Lesson to a class of pupils, selecting for the object a piece of gum-arabic. By a series of skilful questions she drew from the class the names of the different qualities of the substance in hand. It was found to be semi-transparent, amorphous, granulous, pulverous, insipid, inodorous, mucilaginous, and soluble. Its uses were defined—cement, medicine, food. The places where it is procured—Africa and the East Indies. This was a very instructive and profitable exercise throughout. Mr. Harrington came next with a lesson in Grammar, given to a class of his pupils. He first taught the construction of sentences and then their analysis. Favorable opinions were expressed concerning the plan pursued by Mr. Harrington. Mr. Smith introduced his subject, "An Hour with Byron," by sketching in a terse and taking manner the parentage, education, and life of the celebrated poet, so intellectually brilliant, so morally depraved, so hopelessly dissipated. He also read very effectively several selections from Byron's writings which were much appreciated by his audience. A lengthy discussion then ensued upon the question of text-books without, however, securing any decided result. It had previously been decided to hold the next meeting in the High School building, Cornwall, on the first Thursday and Friday in February, 1884.

CHATHAM.—The Chatham District Teachers' Association met in half-yearly convention on Thursday and Friday, October 25th and 26th. Though the attendance the first forenoon was rather small, yet on Thursday afternoon and Friday a very large number was present. The different sederunts were ably presided over by the president, Mr. Shaw, of the Chatham Business College, and Mr. Colles, vice-president, principal of the Model School, Chatham. Rev. Mr. McColl, the venerable and esteemed inspector for the town of Chatham, opened each day's proceedings with prayer. An interesting programme had been arranged for the meeting, and it was faithfully carried out. The Rational Method of teaching Reading was discussed in interesting style by Inspector Nicholls, in the absence of the author, Mr. Packer. Mr. Nicholls, who showed a great deal of versatility with the different subjects which came up before the association, remarked, among other things, that since reading is a science with a much more difficult notation than arithmetic, it ought not to receive, as it does, a less degree of attention. Miss Dawson, secretary of the association, and teacher in Central School, Chatham, treated the subject of Object Lessons, with a small class. She took as the object a cotton-pod, and elicited from her class a great deal of information. Considerable discussion followed, the opinion being offered on all hands that the attributes of the object should be made of primary importance, and concomitant matter then be judiciously warped in. The paper on School Sanitation, by Dr. Richardson, Chatham, which followed, was certainly one of the features of the convention. The paper, after showing clearly the intimate relation between mind and body, insisted on careful attention to the latter as the surest way to secure the highest efficiency of the former. The Dr. was elected an honorary member of the association. A lesson on Reading, by Mr. Colles, consisted in testing before a class of unschooled children the merits of the primers of the two series of recently authorized Readers. The result showed that the Gage's Canadian primer has a decided advantage over its competitor of the Royal series. The lesson was given in masterly style. On the evening of Thursday, a grand literary and musical entertainment, under the auspices of the association, was given in the Opera House. It was a complete success as regards the creditable way in which a good programme was rendered, but owing to the disagreeable character of the evening and other counter attractions in the town, was thinly attended. *Second Day.*—The programme of the second day was introduced by a short paper on Composition, by Mr. Agar. The paper provoked a short discussion, in which it was agreed on all hands that composition should commence at the earliest stages, the name being suppressed of course as it looks rather formidable. "The July Examinations: their results and lessons," by A. W. Aytoun Findlay, B.A. head master of Chatham High School, followed. After pointing to some matters in the official management of these examinations which should

be remedied. Mr. Findlay dwelt more particularly on the subjects of Literature and Composition. The former he thought should not be confined so much as it is to special authors, where parsing and analysis receive the prominent place, but should be wider in its character, covering more of the field of English Literature and its history. Composition should be taught by imitation of our best authors. Mr. Findlay was thanked for his address. An interesting discussion on a Chief Superintendent *versus* Minister of Education showed a diversity of opinion on the subject. At the afternoon session the subject of Discipline was introduced by Mr. R. Law, B.A., principal of the Wilberforce Educational Institute. The best commendation of the paper which can be given is that it gave rise to a highly entertaining discussion on "That bad boy," and how to manage him. The report of a committee of twelve teachers appointed to examine the rival series of authorized text-books was received. The committee were unanimous in recommending Gage's Canadian Readers in preference to the Royal. The report was unanimously adopted. The convention appointed Messrs. Colles and Bracker to cooperate with county committees on this same subject.

LANARK COUNTY.—The semi-annual meeting of the Lanark Teachers' Association was held in the Perth Collegiate Institute Building, with a good attendance of teachers. After the President's opening address, Mr. J. T. Noonan read an essay on "Composition," in which he recommended the teaching of this subject even to pupils of the First Reader. The essayist very clearly explained his method of teaching composition, and his plan met with the warm approval of the teachers present. In the afternoon Mr. T. O. Steele introduced the subject—"Teachers' Associations, County and Township." After dealing with the object of Teachers' Associations, Mr. Steele pointed out some of the defects in their working and advocated the formation of Township Institutes. The opinions advanced were agreed with by all, and we shall probably see several of these associations formed during the coming year. Mr. N. Robertson, of the Perth C. I., then followed with a lesson on "Punctuation," in which he fully explained the use of the colon and the dash. A lecture on "Canada, her people and teachers," by F. L. Michell, Co. Inspector, opened the evening session. The lecturer traced the progress of education from the earliest time to the present, and predicted a bright educational future for Ontario, whose system is yet merely on trial. He also dwelt strongly on the importance of the proper intellectual, physical, and moral education of the youth of the country. Mr. Goth, Reeve of Beckwith, and Edw. Elliott, Esq., of Perth, followed with short addresses. An admirably written paper, entitled "Change and Choice of Text-Books," was then read by J. A. Clarke, M.A., of Smith's Falls. Each book of the rival sets of Readers was taken up, selections given, the merits and defects pointed out. The discussion on this paper was resumed on Saturday morning, when Mr. Steele moved the following motion :—"That it is the opinion of this association that the Royal Readers, possessing literary excellence of the highest order, are especially adapted for study by teachers, but that the Canadian Readers, as regards grading, simplicity of style, attractive typography, and amount of matter contained, are better adapted to our Public Schools : and we therefore recommend their adoption for use in the schools in the county of Lanark." This motion was carried ; however, those members of the association who had examined the "Royal Canadian" Readers, which are issued by the Canada Publishing Co., and now before the Minister of Education for authorization, expressed themselves as preferring that series to either of the sets mentioned in the motion. The question of Minister of Education *vs.* Chief Superintendent was brought before the association. The following motion unanimously carried :—"That it is undesirable to make any change in the present construction of the Education Department, by substituting a Chief Superintendent and Council of Public Instruction for a Minister of Education ; inasmuch as the greatest improvements in the working of our educational system have been made under the present administration." On motion of Mr. McCarter each teacher was requested to send to the Secretary, before the end of the year, a list of such books as he would wish to be added to the association library. "The study of History in schools" was then introduced to the association in an able lecture by Mr. D. M. Ross, of the Lanark Village P. S. He strongly condemned the system of teaching history pursued by many teachers—viz., that of cramming the child with a mixture of dates and events regarded simply as events without any reference to cause and effect. He illustrated his method by showing how he would teach the Hundred Years' War, the Crusades, and other historical events. In the discussion which followed Mr. Burwash moved the following :—"That it is the opinion of this association that English History cannot be *properly* taught in our Public and our High Schools, and at the same time the pupils be prepared to pass examinations on papers including all periods of the History ; we would therefore recommend that suitable portions be selected for the Departmental Examinations." Carried. The first subject taken up on Saturday afternoon was "Style in School Exercises," by S. S. Burwash, B.A., of Carleton Place. The many practical suggestions of this paper cannot fail to benefit all who heard it, especially the younger members of the profession. A short practical address by the President on "Elementary Writing"—a subject which is sadly neglected in many of our schools—closed the last session of the last day. The next meeting will be held in Almonte, at a time to be fixed by the Management Committee.

SOUTH GREY.—The semi-annual convention of the South Grey Teachers' Association was held in the school-room, Durham, Oct. 18th and 19th. The convention met at 10.30 a.m., the president, J. C. Bain, in the chair. The meeting was opened with the reading of a portion of Scripture, and prayer by Mr. M. P. McMaster. The president read a very interesting address, which was listened to with marked attention. He pointed out in a very clever manner the great necessity of a thorough training of teachers before taking charge of a school ; instead of three months at our training schools, should it not be three years? He was glad to know that an improvement in our reading books had taken place, although he regretted that the Minister of Education had authorized two series. In giving the statistics of the different countries regarding Public Schools, he stated that Canada was behind the other countries of the world in attendance according to population. A committee consisting of Inspector Ferguson, Messrs. McMaster and Grier, were appointed to report on the address. Moved by Mr. Gorsline, seconded by Mr. Ramage, that the secretary be authorized to purchase a sufficient number of copies of minutes of Provincial Association and distribute to each member.—Carried. An account from Durham Mechanics' Institute for the use of piano in town hall was presented, amounting to $6. Moved by Mr. McMaster, seconded by Mr. McArthur, that the account be referred to Managing Committee.—Carried. Moved by Mr. Ramage, seconded by Mr. McMaster, that we adjourn to meet again at 1.30 p.m.—Carried. *Afternoon Session.*—Meeting opened at 1.30, J. C. Bain, the president, in the chair. Minutes of forenoon session read and confirmed. Moved by Mr. Jas. Sharp, seconded by Joseph A. Snell, that a committee consisting of Messrs. McMaster, McDonald, McArthur, Sharpe, and Snell, be appointed to examine the two sets of authorized Readers (Gage's Canadian and Nelson-Campbell Royal) and bring in a report as to which series the association shall adopt.—Carried. Mr. Hill then took up the subject of "Writing." He gave an excellent address with practical illustrations on the blackboard. He analysed the whole of the alphabet and showed how he would draw the attention of the class in correcting errors. A discussion of the subject was entered into by the President, Mr. Winterbourne, Mr. McMaster, Mr. Millar (W. J. Gage & Co., Toronto), and Mr. Gorsline. Moved by Mr. Gorsline, seconded by Inspector Ferguson, that a vote of thanks be tendered to Mr. Hill for his able paper on "Writing."—Carried. Rev. Mr. Forrest then read a practical address on "Duties and Encouragement of Teachers." The whole of the address was a masterly piece of composition. Moved by Mr. McMaster, seconded by Mr. Snell, that a committee, consisting of Inspector Ferguson, Messrs. Winterbourne, Dunbar, and the mover, be appointed to report on the rev. gentleman's address.—Carried. Mr. H. Dunbar, of Markdale, then read a very carefully prepared paper on "Minister of Education *vs.* Superintendent." A lively discussion was entered into by the following gentlemen : Mr. Geo. Jackson, ex-M.P., Inspector Ferguson, Messrs. Winterbourne, McMaster, Millar (Gage & Co.), and Gorsline. Moved by Mr. Winterbourne, seconded by Mr. Ramage, that the discussion on "Minister of Education *vs.* Superintendent" be left over for six months. —Carried. Meeting then adjourned. *Second Day.*—The convention met at 1 o'clock. In the absence of the President, the Vice-President, Mr. Chas. Ramage, occupied the chair. The meeting was opened with prayer by Inspector Ferguson. The committee appointed to examine into the two series of Readers brought in the following report : "Your committee to whom was referred the question of Readers now before the public, beg leave to report, that they find Gage's Canadian Readers superior to the Campbell Royal Readers, in the following important particulars : Book I. Brevity, simplicity, type, script, grading, attractiveness. Book II. Lessons fully explained, numerous questions for testing knowledge of the pupils, script continued, difficult words spelled and pronounced. Book III. Explanation of literary difficulties, rhetorical pauses indicated by spaces, explanations of difficult words as in Book II. Books IV. and V. Numerous aids for both pupils and teachers in the preparation of the lessons, making Gage's Fourth Book much superior to the Royal Fourth Book in preparing pupils for the High School Entrance Examination. The price is also much lower. All of which is respectfully submitted. M. P. McMaster, Flesherton ; John McDonald, Priceville ; Chas. McArthur, Artemesia ; Wm. J. Sharpe, Egremont ; Joseph A. Snell, Egremont." Moved by Mr. H. Dunbar, of Markdale, seconded by Mr. McDonald, of Glenelg, that the report now presented on the Readers be adopted by this association.—Carried. Report of Managing Committee on Mechanics' Institute bill of $6 for use of piano was read, and recommended the payment of $3. Moved by Mr. McMaster, seconded by Mr. Snell, that the report, as read, be adopted.—Carried. Mr. Millar (W. J. Gage & Co., Toronto) addressed the meeting on the "Reading Books and Tablet Lessons." Mr. Millar was listened to with marked attention, as he gave a very practical address which was interesting to all present. Mr. C. Threadgold read a paper on "Temperance." He pointed out in a very able manner the great evil resulting from intemperance and the great benefit which

metic" Mr. Winterbourne illustrated map-drawing on the blackboard in a very clear manner. There was a very large attendance of teachers at all the sessions. Moved by Mr. McMaster, seconded by Inspector Ferguson, that we adjourn to meet at Flesherton in May, 1884.—Carried.

NORTH HURON.—The regular semi-annual meeting of the North Huron Teachers' Association was held in the Central School, Brussels. After some formal business, the following committee was appointed to examine the two series of Readers now before the country for adoption, and bring in their report on Friday morning: Messrs. Ferguson, Henderson, Wallis, Dewar, Shaw, and Misses E. B. Case and M. Gilpin. Mr. T. A. Reid then presented his method of teaching "Map Geography" in a most concise manner. Mr. G. W. Ross, President of the Provincial Teachers' Association, treated of "Difficulties in Reading," disposing of many of those stumbling-blocks to young teachers in a manner that could not fail to be profitable to all who listened to him. Mr. J. M. Moran, ex-inspector of schools for Perth, read an essay, "The Two Schools,"—one a superlatively bad one, and the other an ideally good one—in the first case pointing out many things to be avoided in the management of scholars, and in the second showing what an ideal school should be. Mr. Ross then gave what he called "The Teacher's Pentalogue," being five good commandments that every teacher should paste in his hat. It was moved by Mr. Musgrove, Bluevale, seconded by Mr. Henderson, Blyth, that a vote of thanks be tendered Messrs. Ross and Moran for their able articles, which was carried unanimously. This concluded the first day's work. In the evening an entertainment was given in the town hall, consisting of vocal and instrumental music and lecture, "The Intellectual Forces," by Mr. Ross, which was a decided success in every way. On Friday, Mr. Wallis, of Grey, criticised school text-books in a manner that met with very general approval from the teachers present. The report of the committee was then handed in as follows: "We, the members of the committee appointed by the North Huron Teachers' Association to report on the newly would result from temperance. Mrs. Reid, of Mount Forest, then took up the subject of "Elocution or Voice Culture." This was the first time this talented lady had appeared before the teachers of South Grey, and from the treat which she gave them on elocution, they trust that it will not be the last. As an elocutionist Mrs. Reid has few to excel her in Canada, in fact she has few equals. She read several difficult passages from the Scriptures and some of the leading poets. Moved by Mr. McMaster, seconded by Mr. Dunbar, that the thanks of this association be tendered to Mrs. Reid for the very able and instructive lecture which she gave them on this very important subject, "Elocution."—Carried. Mr. Reid, B.A., master of Mount Forest High School, then took up the subject, "The background of Burke's Reflections." He read a very instructive paper on this subject. He framed his address in such a way as to make it very interesting to all present. Mr. Reid's ability as a lecturer and public instructor is well known to the teachers of South Grey, and they highly appreciate his presence at their conventions. Moved by Mr. Gorsline, seconded by Mr. McDonald, that we tender a vote of thanks to Mr. Reid for his able lecture on Burke's Reflections.—Carried. Mr. Jenkins, of the *Chronicle*, gave a very humorous and practical address on the "Teaching Profession." He attacked the office of Minister of Education and the Superannuation Fund and several other points in the present school system. Mr. Jenkins is a very clever and independent speaker. He kept the audience in good humor for about an hour. Mr. Winterbourne did not agree with the speaker on some points and entered into a short discussion. Meeting adjourned until 1.30 in the afternoon. *Afternoon Session.*—Meeting opened at 1.30, Mr. Ramage, Vice-President, in the chair Mr. Thompson read a very carefully prepared paper on "Desire," which was highly appreciated by those present. The report on President's and Rev. Mr. Forrest's addresses were read, the former of which was as follows: "Mr. Vice-President, Ladies and Gentlemen,—In submitting our report on our President's address, you must kindly bear with us in saying that we have not had anything like time to give it that amount of thought that the various subjects of which it treats demand. And while we may not be able to agree in detail with all our worthy President's suggestions, we think their importance demands a closer investigation than we, or the association, can give at this time; we would therefore respectfully beg to intimate that these subjects form a part of the programme at our next meeting, viz.: 1st. The reading of the Bible in our schools. 2nd. The injurious effects caused by merely adopting the profession as a stepping stone to other professions. 3rd. And, if approved by the association, various other matters suggested in the address. And in view of our President leaving the county, we cannot allow this opportunity to pass without expressing, in the name of the association, our high appreciation of him as a gentleman, a scholar, and one of the most laborious officers of the association during the six years with which he has been connected with us. All of which is respectfully submitted. D. Grier, Chairman of Committee; M. P. McMaster, W. Ferguson, I.P.S." Moved by Mr. McMaster, seconded by Mr. McArthur, that the reports be adopted.—Carried. Mrs. Reid, of Mount Forest, gave another lecture on the principles of gesture, which was very instructive to teachers of reading. Mr. McGillvary gave an excellent paper on "Mental Arith- authorized series of school Readers, unanimously recommend the adoption of 'Gage's Canadian Readers' by the various school boards of North Huron." Moved by Mr. Ferguson, seconded by Mr. Dewar, that the report be adopted. Mr. Moran, representing Mr. Gage, and Mr. Walmsley for the Royal series, were then given time to present the claims of their different Readers, after which the discussion was taken up by Messrs. Groves, Creighton, Ferguson, McRae, and Reid. Upon the ballot being taken it was found that 44 had voted for the adoption of Gage's series, and 14 for the Royal Readers. The motion was again put and was made unanimous. Miss Forest then read her essay, "Examinations, Public and Private," which was well received. Mr. Harstone, Seaforth, showed his method of teaching "Euclid" to beginners, which was the best and most elaborate method it has ever been our good fortune to listen to. A well-deserved vote of thanks was then tendered Mr. Harstone. Thus concluded one of the most successful meetings of this always successful association. At the conclusion of the meeting a society was organized to be known as the North Huron Teachers' Literary Society, and the following officers were duly elected: Mr. T. A. Reid, President; Mr. A. McKay, Vice-President; Mr. J. J. Wallace, Secretary-Treasurer; Messrs. J. W. Shaw, R. Knechtel, J. H. McBain, A. McKay, and J. A. Young, Managing Committee. The society held its first meeting at Brussels on Saturday, December 1st, 1883, commencing at one o'clock.

PRESCOTT.—A meeting of the Teachers' Association of the county of Prescott took place at Vankleek Hill on Friday and Saturday, the 12th and 13th October. The forenoon of Friday was occupied with teaching in the Model School. In the afternoon about fifty teachers were present. Mr. Summerby, I.P.S., opened the session by stating the order in which the proceedings of the meeting would be taken up. Mr. S. Burns then read an essay on "The Teacher outside the Schoolroom." The paper was well received, and Mr. A. Johnson read a good paper on the same subject. Mr. Little, assistant master, High School, Vankleek Hill, read an essay on "Management and Discipline." The numerous suggestions made in this paper were highly important and valuable. It was one of the best essays ever read before the association. The evening session opened at 7 o'clock, and many of the townspeople attended to hear a very interesting discussion upon the school book question, between Mr. Cosgrove, agent for Gage & Co., and Mr. Small, agent for Campbell & Son., who were present advancing the claims of their respective houses. Mr. Summerby occupied the chair. After both gentlemen had been heard, it was moved by N. G. Ross, and seconded by H. Hay, that this convention recommends the introduction of Gage's Canadian Readers into the schools of the county. It was moved in amendment by D. Marshall, seconded by S. Burns, that the Royal Readers be adopted by this convention as the series best adapted for use in the schools of the county. To avoid confusion, it was resolved to take the vote on the following morning. Mr. J. A. Houston, B.A., Hawkesbury, entertained the meeting with music and songs, which were well appreciated. Miss Pettit, of Hawkesbury, gave an excellent reading. Mr. Summerby then addressed the meeting upon the subject of "School Grounds." Saturday morning's session opened with an essay by Mr. John Munro, Principal of Central School West, Ottawa, upon "Association Work." He spoke of the necessity of teachers' associations. Reference was made to a number of important subjects. In referring to the prospects of teachers, he showed that the average length of teachers' lives was one of the shortest on the scale. He recommended smaller classes and better means of ventilation in school rooms. An interesting discussion followed the reading of the paper. Mr. Munro received a vote of thanks from the association for his very interesting paper. Mr. Sheppard, Central School West, Ottawa, lectured upon "English in Schools.' He recommended that language should be cultivated from the time that the pupil commenced attending school, and that all mistakes or errors of speech should be corrected by the teacher in the recitation of every lesson. It is important that teachers should speak grammatically with ease, and every teacher should try to improve his own language. He also recommended teachers to cultivate a fondness for substantial reading in their pupils. This can be mainly done through the instrumentality of the reading lesson. He recommended the reading of pure literature, and condemned sensational novel reading. He recommended good plain reading and a thorough appreciation of the lessons as more useful than high-toned elocution. Mr. Sheppard concluded his instructive lecture by recommending teachers to induce their pupils to read the newspapers This could be done by questioning them upon the events of the day. A vote of thanks of the meeting was tendered to Mr. Sheppard for his able lecture. A vote of the association recommended the introduction of Gage's Canadian Readers into the schools of the county.

All the means of action—
The shapeless masses, the materials—
Lie everywhere about us. What we need
Is the celestial fire to change the flint
Into transparent crystal: .... that fire is genius.
—*Longfellow.*

REVIEWS.

We have received from Longmans, Green & Co. a copy of Mr. David Morris's Class-Book History of England. Its distinguishing feature is its historical illustrations, several of which are maps. These are, for a three-and-sixpenny book, very well executed. The author seems on the whole to have done the work of compilation with commendable care and judgment. As he has had experience in teaching, he has been able to avoid many of the mistakes into which other writers of books of this kind have fallen.

ASTRONOMY FOR SCHOOLS AND COLLEGES. By Simon Newcomb, LL.D., and Edward Holden, M.A. Third edition, revised and partly re-written. THE SAME,—BRIEFER COURSE.

These works form part of the admirable "American Science Series," now publishing by Henry Holt & Co., N. Y. In both works the subject-matter is printed in two sizes of type—the matter given in the larger type forming a course practically complete in itself, while that of the smaller type is chiefly explanatory of the former. It is evident that the authors—both eminent astronomers—have bestowed great care on their work, and in saying this it "goes without saying" that they have produced a work eminently suited to school and college work. The "Briefer Course" is a condensation of the larger work, or rather it is a simplification of the larger work to meet the needs of the younger student and the general reader. Nothing essential has been left out; but, by the omission of most of the mathematical formulas, and some of the details of Practical Astronomy, space has been gained and skilfully utilized for a fuller discussion of the more elementary parts of the subject. We heartily commend this work, as well as Prof. Newcomb's works on Algebra and Geometry (by the same publishers), to the attention of teachers and students.

ELEMENTARY BOTANY, with Students' Guide to the Examination and Description of Plants. By George Macloskie, L.Lc., LLD. "American Science Series."

BOTANY FOR STUDENTS AND GENERAL READERS. By C. E. Bessey, Professor of Botany in Iowa Agricultural College. Third Edition, revised.

Of the first of these works, the opening part is a botanical primer in the form of the examination of a well-known plant. Then come the general principles of the science; first as to the flowering plants and afterwards as to the flowerless plants, the one group being used to illustrate the other. The treatment of the subject is exact and trustworthy, but so free from technicalities as to be at once decidedly attractive to the young student, and a thorough practical aid to any "general reader" that will devote a little time to the examination of a common plant.

Prof. Bessey's "Botany for Students and General Readers" is a more elaborate work. In the preparation of this book there has been kept in view the wants of the large number in the schools and out who wish to obtain a general knowledge of the structure of plants, with some idea a to their classification into the larger divisions and sub-divisions of the Vegetable Kingdom. It aims at leading the student to become an observer and investigator. The aim of the author has been realized in the production of what many eminent professors of botany have pronounced the best work on the subject that has yet appeared.

Now that Botany has found a place in our High School course, the above works will prove invaluable to our teachers and students of the subject, as supplementing the elementary authorized work on the subject. Young students will be delighted with *Macloskie*, while "Bessey" ought to be found in every High School teacher's library. Henry Holt & Co. send teachers examination copies of their works on very liberal terms.

A TEXT-BOOK OF INORGANIC CHEMISTRY. By Prof. Victor Von Richter, University of Breslau. Authorized translation of the 3rd German Edition by Prof. Edgar F. Smith. *Blakeston, Son & Co., Phila.*, 1883. This is a handy volume of 415 pages. The elements are grouped on *the periodic system* according to the magnitude of their atomic weights as announced by MENDELEJEFF and LOTHAIR MEYER. This system is a valuable aid in chemical studies, and by it we are continually arriving at new relations and facts. The remarkable relations of the elements of any one group, as, also, of the various groups to each other, appear more manifest when viewed in the same connection in which they present themselves in the periodic system. The position which these elements occupy in the system determines, in a marked degree, their entire physical and chemical character. The book is well printed, fairly illustrated, and contains a good index. As a good hand-book containing the most recent discoveries, and a very lucid presentation of the whole subject, we heartily commend it to the attention of teachers and students.

BEOWULF, an Anglo-Saxon poem; and THE FIGHT AT FINNSBURG, a fragment, with Text and Glossary on the Basis of M. Heyne. Edited, Corrected, and Enlarged by James A. Harrison and Robert Sharp. *Boston: Ginn, Heath & Co.*

This is announced as "the initial volume of a *Library of Anglo-Saxon Poetry* to be edited under the same auspices and with the co-operation of distinguished scholars." Of this particular volume the editors say, "The present work, carefully edited from Heyne's fourth edition is designed, primarily for college classes in Anglo-Saxon, rather than for independent investigators or for seekers after a restored or ideal text. . . . . The present edition is, as far as they were able to make it so, an adaptation, correction, and extension of the work of this great German scholar, to whose loving appreciation of the Anglo-Saxon epic all students of Old English owe a debt of gratitude. While following his usually sure and cautious guidance, and in the main appropriating his results, they have thought it best to deviate from him in the manner above indicated whenever it seemed that he was wrong."

It has been said, that while History tells the story of the outer life of a nation, the inner life of thought and feeling reveals itself in the Literature. If this be the case, and who can doubt but that it is, what a strange anomaly do we see in the course of study pursued in too many of our high schools and colleges. Much time and labor are spent in gaining what is very rarely more than a slight and superficial knowledge of Greek and Latin, with the professed aim of studying the comparatively narrow literature of pagan Greece and Rome, while in the pupils' mother-tongue exists a literature thoroughly Christian in its spirit, and, for fulness, range, and variety, unsurpassed by any other whatever; a literature which is the embodiment of the thought of a people "not slow and dull, but of a quick, ingenious, and piercing spirit, acute to invent, subtle and sinewy to discourse, not beneath the reach of any point, the highest that human capacity could soar to." Too few who speak the English tongue recognize the true value of their possession. Not many languages can boast, as English can, of a literature that records all that was best in the life and thought of a people for more than a thousand years. From Alfred to Victoria there is no real break. "Surely, then, every Englishman who wishes to study, step by step, the development of a language and of a literature, and to watch the progress of human thought and expression throughout a whole millennium, had better begin at home, with the study of ENGLISH."

But, it will be answered, the means of study, the apparatus, are ample for the literature of Greece and Rome, while such is not the case at least with Old English. Sad to say, this is too true. Let us hope, then, that the editors and publishers of this excellent edition of Beowulf will receive the encouragement and support they deserve, and that they will carry out their present purpose and publish other volumes of Anglo-Saxon poetry as well and as carefully edited as this one. And why should there not be a *Library of Anglo-Saxon Prose?* The two along with the selections of Morris and Skeat, published by the Clarendon Press, might well furnish the Early English portion of a course of study worthy of place beside *Classics* and *Science*.

Oldest of English hero-lays is the saga of Beówulf the viking, which tells how its hero came from Gotland, in Sweden, to deliver the Danes from the dread fen-fiend, Grendel, "grim strider of march-lands." For twelve years had this Grendel, whom no man-fashioned weapon might wound, wrought havoc and death among the Thanes of King Hrothgar, but at last he is slain by Beówulf, who tears off one of the monster's

arms, for in the warrior's hand-grip was the strength of thirty men. Then the sea-wolf, Grendel's mother, would avenge her dead son on the Danes. Her, also, the hero slays, seeking her in her hall far under the sea-wave. Beówulf then, bearing rich presents from the grateful Danes, returns to his own land, over which he becomes, in time, king, and rules, beloved of all, for fifty years. Then evil days come. The hoard of a fire-dragon is robbed, and the monster, raging, wreaks terrible vengeance on all the land. To save his people, Beówulf, although oppressed with gloomy forebodings, attacks and slays the dragon, but receives his death-wound in the combat. The poem concludes with the building of the funeral-pyre, the burning of the hero's body, and the raising over the ashes of a mighty cairn to serve as a beacon

"For all sea-farers to see from afar off.

Thus then lamented the folk of the Geates
The fall of their lord; then his hearth-sharers
Quoth that he had been ever a mighty king,
Mildest to men and most tender-hearted,
Kind to his kinsfolk and eager of praise."

BEOWULF, an Anglo-Saxon poem; and THE FIGHT AT FINNSBURG, Translated by James M. Garnett. *Boston: Ginn, Heath & Co.*

This is a line-for-line translation of high order of excellence of the famous Anglo-Saxon saga, following the text of Grein. The rendering is very close, so close, indeed, that the spirit of the original is occasionally sacrificed to the letter. Sometimes, too, the work is marred by what seems to us a needless use of Latin-sprung words where Saxon words readily suggest themselves. However, this leaves the student something to do; the student, for it is to be hoped that now we have both text and translation in a comparatively cheap form, there will be many students of our earliest, not alone English, but even Teutonic epic. Meanwhile, Prof. Garnett receives the thanks, and his work has won the praise, of all English scholars.

VIBRATORY MOTION AND SOUND. By J. D. Everett, Professor of Natural Philosophy in Queen's College, Belfast. *Boston: Ginn, Heath & Co.*

"The present treatise is intended to open up the subject of Vibratory Motion to students who have mastered the elements of dynamics."—*(Preface.)* It will be seen from this that the work is intended to bridge over the gap between such works as that of Tyndal on the one hand and those of Airy, Donkin, and Rayleigh on the other. That the author of *Units and Physical Constants* has performed his task with a master-hand, goes without saying. The treatment of Simple Harmonic Motions, "the key to the whole subject," is skilful and elegant: we know of no book that presents the subject so simply and so well, and we cordially recommend it to students entering on the study of Acoustics.

CLIPPINGS.

"You must love your work, and not be always looking over the edge of it, wanting your play to begin."—*George Elliott.*

Student (reciting): "And—er—then he—er—went—er—and—er—" The class laugh. Professor: "Don't laugh, gentlemen. To err is human."

"I see the path of moral responsibility before me, and shall, by the blessing of God, adhere to the line of rectitude and duty."—*Wm. Chambers* in 1830—died May, 1883.

A concentrated solution of bichromate of potash and glue makes an excellent cement for repairing articles of broken glass. After covering the fractured surfaces with the solution, they are brought together and exposed to the action of the sun. This cement resists boiling water.—*Gazela Industrial.*

During the examination of a witness as to the locality of stairs in a house, the counsel asked him, "Which way do the stairs run?" The witness very innocently replied, "One way they run up stairs, but the other way they run down stairs." The learned counsel winked both eyes, and then took a look at the ceiling.

Enthusiastic professor of physics, discussing the organic and inorganic kingdoms: "Now, if I should shut my eyes—so—and drop my head—so—and should not move, you would say I was a clod! But I move, I leap, I run; then what do you call me?" Voice from the rear: "A clodhopper!" Class is dismissed.—*Vassar Miscellany.*

Send us a new subscription along with your own.

A man in the train was heard to groan so frightfully that the passengers took pity on him, and one of them gave him a drink. "Do you feel better?" asked the giver. "I do," said he who had groaned. "What ailed you?" "Ailed me?" "Yes; what made you groan so?" "Groan! Great land of freedom! I was singing!"

A READY ANSWER.—A witty nobleman once asked a clerical gentleman at the bottom of the table why the goose, when there was one, was always placed next to the parson. "Really, my Lord," said the clergyman, "your question is somewhat difficult to answer, and so remarkably odd that I vow I shall never see a goose again without being reminded of your lordship."

INDIVIDUALITY.—David could no more fight in the armor of Saul than a teacher can do effectual work when impeded by the methods and processes imposed by those superior in authority, however excellent the methods may be in themselves. The teacher should not be an imitator, but an originator; not an artisan, but an artist.—*Supt. W. H. Lambert, Malden, Mass.*

WRITING IN THE ERIE (PA.) SCHOOLS.—Our practice as to work placed before the eye is:—

1. To allow of no "fine" writing by teachers or pupils. The beginner writes a coarse hand not less than seven thirty-seconds of an inch in the height of the unextended letters. No "hair-line" work or light lines are allowed.

2. Large slates that allow of freedom, taste, and large-sized writing are used. The size for the primary grades is eight by twelve inches, and higher grades nine by thirteen inches. Many pupils have large, double slates, giving them twice the space of those having single slates. Small double slates are not used. Large slates not only make school-work better for the eye, but the pupil can keep for inspection quite a part of lessons already recited, so that the maxim has arisen "that the full pupil has a full slate."

3. All blackboard lessons to be studied as letters, tables, copies, etc., are put in large, bold-faced letters and figures. The same principle is observed in drawings, maps, etc.

It is found that this practice not only favors the eye, but aids materially in rapid advancement in all school "finger-work," as writing, drawing, etc. —H. S. JONES, *Supt.*

The county institutes form a very significant part of the school-work of the State, and are growing in power from year to year. No factor is more important or serviceable in the way of awakening and deepening interest in educational affairs. The county institutes, by gathering together each year in centres of advanced culture throughout the State large bodies of teachers and instructors and lecturers, challenge attention and arouse the thought of whole communities, and concentrate the same upon the Public School work. They serve also to keep vigorous among the teachers a sense of their calling —that *esprit de corps* which is felt to be so necessary in all professional life. To this must be added the special benefits which the teachers gain from skilful educators who are present at the institutes with this end in view.—*Dr. Higbee in Penn. Report.*

The bird that soars on highest wing
Builds on the ground her lowly nest;
And she that doth most sweetly sing
Sings in the shade when all things rest.
—*Montgomery.*

Sweet is the lore which nature brings;
Our meddling intellect
Misshapes the beauteous forms of things;
We murder to dissect.
Enough of science and o art;
Close up those barren leaves,
Come forth and bring with you a heart
That watches and receives.—*Wordsworth.*

Stone walls do not a prison make,
Nor iron bars a cage;
Minds innocent and quiet take
That for an hermitage;
If I have freedom in my love,
And in my soul am free,
Angels alone that soar above
Enjoy such liberty.—*Richard Lovelace.*

SEED-SOWING.

Sow thy seed, O husbandman!
What though others reap?
It will burst the shell and rise,
Sip the dew and kiss the skies—
Sow thy seed and sleep.

In thy labors thou shalt live—
Dust alone is dead—
Ever falls the shine and rain,
Ever springs the golden grain;
And the world is fed.

The *Canada School Journal*, the cheapest in the world.